MacWEEK

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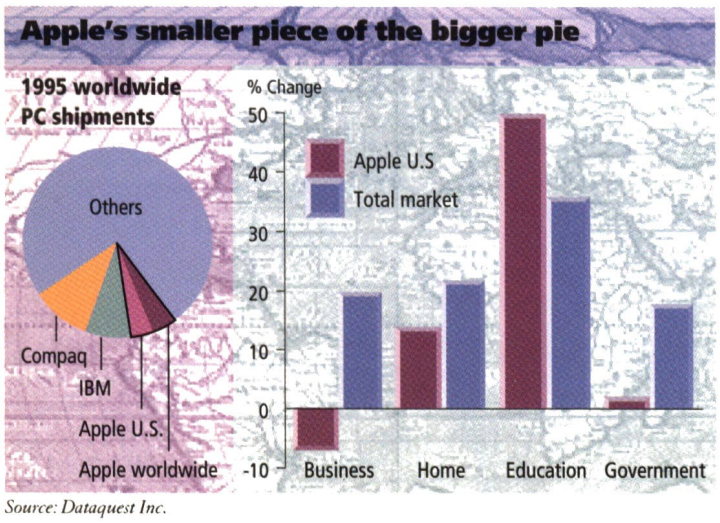

Source: Dataquest Inc.

Apple takes the bronze

Opportunities for clones, Pippin

By James Staten

While Apple shipped a record number of Macs in 1995, its sales didn't keep pace with the growth of the overall personal computer market, analysts said. However, projections for 1996 point to a U.S. market slowdown that could benefit Apple's worldwide cloning strategy and Pippin model.

According to figures released last week by Dataquest Inc. of San Jose, Calif., Apple's piece of the worldwide PC pie was thinner last year, 7.8 percent compared with 8.3 percent in 1994. This occurred despite record sales of 4.7 million Macs, up from 3.9 million in 1994. Apple fell from second to third in total shipments for the year, losing ground most no-

See Apple, Page 70

Compaq tosses cold water on clone rumors. See Page 70

Power halts meltdown after operations crisis

By Joanna Pearlstein and Kelly Ryer

"Success … nearly killed us," wrote Stephen Kahng, CEO of Power Computing Corp., last week in a letter to customers that addressed a months-long saga of failed customer service and technical glitches.

The problems Kahng alluded to came to a head in January at Macworld Expo in San Francisco. As potential customers swarmed the company's booth, things were falling apart behind the scenes: A combination of technical and administrative snafus were leading to what one official later described as "an almost total meltdown."

In late November, customers reported heat-related crashes and display anomalies with the Power 120, a 120-MHz 601-based Mac system that Power shipped in September 1995. Director of Marketing Michael Rosenfelt said Power accepted units for repair, but its engineers were confounded by the problem. In late December the company began sending out fans as a stopgap measure.

But the fans didn't fix the problem, and in some cases aggravated it. Anthony Vitti, a professor at Boston's Berklee College of Music, received five sets of fans for his Power 120. "They called this a 'ventilation upgrade,' " he said. "I knew it was an attempt at a cheap fix for a major design problem."

It was mid-February before the problem was traced to a bad batch of epoxy glue used to fasten a heat sink to the processor on some Power 120s. "We knew the [symptoms were] typical of a hot proces-

See Power, Page 70

Power's near-disaster journal
November 1995 Power 120 users begin to experience overheating problems.
CLOSED
January 1996 At Macworld Expo, Power is told CompuAdd is closing its doors: Power executives return to Austin to start packing.
February 1996 Power engineers identify heat-sink glue as source of 120 problem.
GLUE
March 19, 1996 Power CEO Steven Kahng posts letter to customers on company's Web page.

OS update a mixed bag: 7.5.3 fixes vie with quirks

By Henry Norr

It's easy to see why Apple no longer calls its interim system-software enhancement packs "tuneups": System 7.5 Update 2.0 is more like an engine overhaul.

REVIEW

The update, which weighs in at about 17 Mbytes, upgrades any previous version of System 7.5 to 7.5.3. It makes more changes than we have space to consider, but most of the changes fall into five areas:

The first area is bug fixes. The documentation lists an astonishing variety of glitches supposedly fixed. Many are obscure; others, such as Type 11 errors on Power Macs, have been all too common. It's too early to tell how much of an improvement this will add up to; some users report that their

See OS update, Page 72

Game makers bullish about new API suite

By James Staten

This week, Apple will finally admit that yes, the Mac *is* a toy.

At the Computer Game Developers Conference in Santa Clara, Calif., this weekend the company plans to deliver Game Sprockets, a new suite of APIs that will improve the performance, interactivity and realism of Mac titles. Apple said it expects the first games using the code to appear in time for the holiday buying season.

The forthcoming tools will arrive with a new commitment by Apple to the games market — a drastic about-face from its traditional position.

"For years the Mac has been labeled a toy by the Wintel market, so Apple has put its emphasis on fighting this image, selling the Mac as a business machine," said

See Games, Page 70

Apple courts small business

By Mark Hall

Apple's marketing of the Mac to corporate buyers has slowed down since late last year, while programs aimed at small business have raced ahead.

Buckley: Not backing away from big business.

Sources said Apple lacks experienced staff to design and implement programs to reach large sites. "There's a complete failure of product management inside Apple," one source said. "There are no solutions for corporate buyers. We're spinning our wheels of the wheels that remain."

Dramatizing this point was the collapse of The Corporate Mac, a trade show that shut down last week before it even got off the ground in New York. It joins MacIS and the Worldwide Publishing Consortium, two other defunct organizations that focused on large Mac sites.

Organizers pointed to the lack of support from Apple as the main reason for these failures. In the case of WWPC, a lawsuit has been filed against Apple for pulling out of the consortium.

"Initially, Apple was enthusiastic," said Pat Prieser, president of P&V Enterprises Inc. of New York,

See Marketing, Page 72

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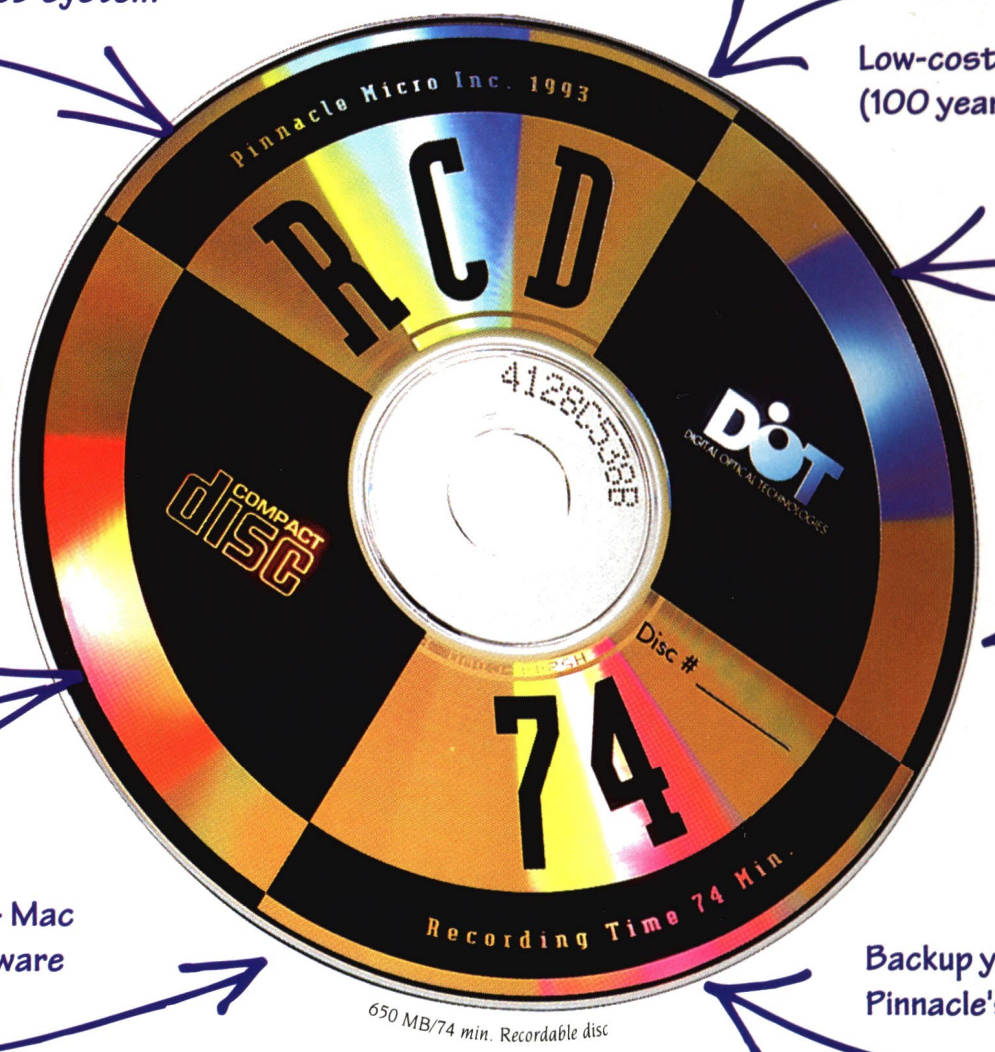

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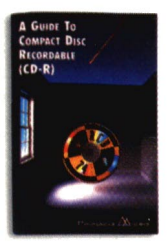

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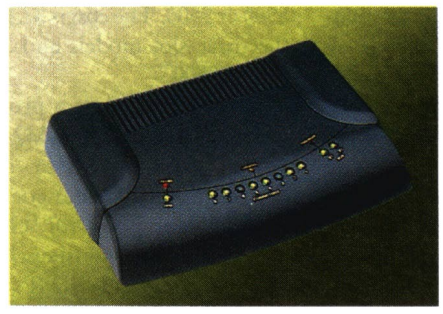
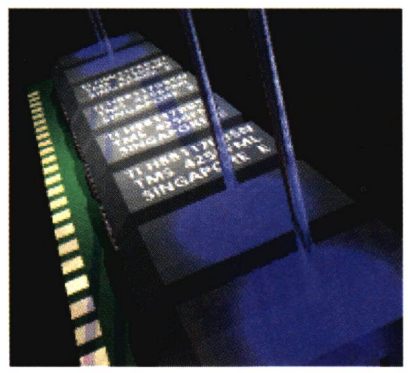
ViaGrafix gears up to ship a new version of DesignCAD 2D/3D that enhances its 3-D rendering capabilities and editing tools. See GA, Page 14.



Packing them in: WebRamp has a hub, router, ISDN terminal adapter and fire wall in one unit. See Gateways, Page 22.



TechTool puts computers through their paces, identifying more than 300 hardware and software problems. See News, Page 6.

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Users are now sidestepping that once-hyped EPA standard called Energy Star, choosing to be compliant as long as it doesn't cost more.

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MACWEEK INSIDER MATTHEW ROTHENBERG

U.S. clones left out in cold

One of my favorite stories from the Cold War concerns feisty little Albania, long the poorest country in Europe and the last of the hard-line Stalinist dictatorships. After breaking with the bourgeois backsliding of Kruschev's Eastern Bloc, Albania attempted to cozy up to the People's Republic of China as the other true Marxist state.

While geographically small, the tiny country had big chutzpah and wanted to assume the lead role in any association with the Asian behemoth. In fact, it managed to alienate the Chinese at a joint conference in Beijing by pointing out that, thanks to their combined might, the Albanian Socialist Revolution was nearly 1 billion strong. Meanwhile, of course, Albanian's own 2 million-worker economy was unable to get more than six taxis on the street in the entire country.

Now, I don't want to say that Apple's domestic Mac clone effort is in an equal state of disarray. Nevertheless, I am amused at the notion that Motorola Inc.'s forthcoming Chinese Mac clones may descend as a deus ex machina for the OS while U.S. clone makers continue to struggle with basic organizational challenges.

It's a sad commentary on the current clone lineup that the strongest licensee so far — Motorola — will initially concentrate its efforts on the Chinese market while leaving the United States to a number of more callow competitors that still have some serious organizational issues to resolve.

Take Joanna Pearlstein and Kelly Ryer's story on Power Computing Corp.'s travails (see Page 1). While this cautionary tale has a happy ending, it is sobering to learn how close the poster child of Apple's yearlong licensing push came to disaster.

Power has been admirably forthright in owning up to its brush with the Grim Reaper, but its mad scramble to overcome sticky quality-assurance problems and the meltdown of its main subcontractor is less than reassuring. After all, this company is supposed to be the *successful* Mac clone maker in a field already littered with the bodies of less-fortunate competitors.

The rest of this week's clone news is a mixed bag, and I'm not sure that much of it inspires confidence in the health of the Mac clone lineup.

While DayStar Digital Inc. argues convincingly that its recent layoffs reflect the waning of the upgrade-board market, not a failure to move its high-priced clones, the company has only recently ramped up production of its Genesis CPUs. Meanwhile, former player Radius Inc. continues to slough off technologies in an effort to stop the free fall that ensued after its disastrous foray into Mac OS licensing.

It's a sad comment that Motorola will concentrate its efforts on China.

By far the brightest news for Mac-compatibles in the West this week comes out of Germany, where Compaq Computer Corp. is reportedly on track to license the operating system for its PowerPC boxes, according to rumors flying around the CeBIT '96 trade show in Hanover.

According to our cousin in the PC camp, PC Week, Compaq is looking to license Motorola's PowerPC designs and offer them with the Mac OS. (Readers can get the complete scoop on-line at http://www.zdnet.com/macweek/.)

The deal will include Compaq's longtime companion on the manufacturing side, Mitac International Corp. of Taiwan. Despite the ever-present Chinese connection, however, the deal will be born in the U.S.A. and will result in a slew of new clones in the U.S. and European markets.

If Compaq, the General Motors Corp. of American CPU manufacturing (per its continued presence at No. 1 in Dataquest Inc.'s reports), does finally jump into the fray, it would be a whole new diplomatic ballgame for the Mac OS.

If a superpower like Compaq adopts the platform, the Mac's cachet will skyrocket, and it should offer a shot in the arm to the smaller guys, too. □

Matthew Rothenberg is senior associate editor/GA. He welcomes correspondence at matthew_rothenberg@macweek.com.

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DayStar pushes clones

Shifts its focus off accelerators

By David Morgenstern

After a recent round of layoffs, DayStar Digital Inc. last week said it is on track with efforts to shift its focus from upgrades to Mac clones. The company also unveiled multiprocessor Genesis upgrade packages for PCI Macs, price cuts on its systems and a new upgrade card for PCI models.

The company said it laid off more than a dozen employees earlier this month. The reductions came primarily from manufacturing and support workers for DayStar's PowerPC accelerators.

Countering published reports that questioned its commitment to the clone market, DayStar said the single-processor accelerator market for older models is fully developed and is focusing on multiprocessor clones and upgrades.

"If you don't have a lot of bandwidth, it's better to focus on your strengths," said analyst Tim Bajarin, president of Creative Strategies International Inc. of San Jose, Calif. Multiprocessor technology is "the right strategy given their size," Bajarin said.

The company in April will release nPower 300, a dual-processor upgrade card for PCI Macs. The new card will cost about $2,500 and offer two 150-MHz 604s. DayStar also unveiled Genesis MP 528 Conversion, a modification plan for the Power Mac 7500, 8500 or 9500. The cost is $7,499 for the three-slot models and $8,499 for the 9500.

The upgrade puts a processor daughtercard with four 132-MHz 604s into a Genesis MP tower.

In addition, DayStar cut prices on the four-processor Genesis MP models. Previously priced at $19,999, the Genesis MP 600 is now $17,499; the Genesis MP 528 slipped from $14,999 to $13,499.

DayStar Digital Inc. of Flowery Branch, Ga., can be reached at (770) 967-2077 or (800) 972-8711; fax (770) 967-3018. □

SoftWindows open to Windows 95

By Clifford Colby

Windows 95 is shipping all over again — for Power Macs. Insignia Solutions Inc. this week said it expects to deliver two new versions of its Windows emulation software for Power Macs, including a version that runs Microsoft Corp.'s latest OS.

SoftWindows 95 includes Insignia's new TurboStart feature, which trims Windows 95's launch time to about 10 seconds. Insignia said SoftWindows 95 offers SoundBlaster-equivalent sound support and comes with a Windows MIDI driver. The application can also use compressed sound files.

The application also comes with an Advanced SCSI Programming Interface driver for controlling Macintosh and Intel-standard PC SCSI devices. With the driver, users can bypass Apple's CD-ROM extensions to read Windows CDs.

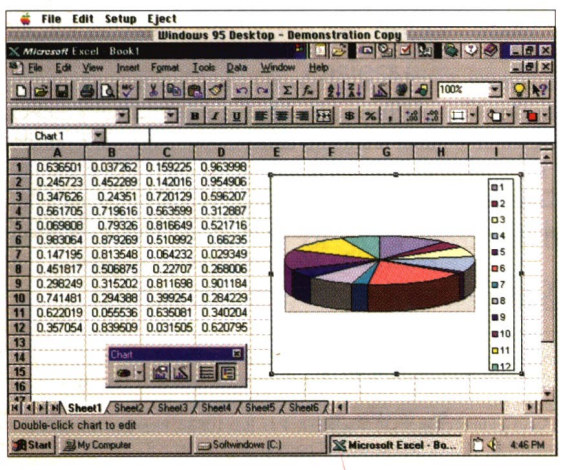
SoftWindows 95 is Open Transport-aware and includes a Windows printer driver that works with any printer selected in the Mac's Chooser.

The second Insignia update shipping this week, SoftWindows 3.0, lets Mac users run Windows 3.1 better. The company said SoftWindows 3.0 is 35 percent faster than the previous version and is tuned for graphics and multimedia applications. The software features the same improvements as the Windows 95 version except for TurboStart and includes MS-DOS 6.22. Users can upgrade SoftWindows 3.0 with Windows 95.

Insignia recommends a Power Mac with 20 to 24 Mbytes of RAM for SoftWindows 95 and 16 Mbytes for Version 3.0.

SoftWindows 3.0 has a street price of $299, and owners of Version 2.0 can upgrade for $79. SoftWindows 95 has an estimated price of $349, and owners of Version 2.0 can upgrade for $149.

Insignia Solutions Inc. of Santa Clara, Calif., can be reached at (408) 327-6000 or (800) 848-7677; fax (408) 327-6272; fax-back (800) 876-3872; maccs@isinc.insignia.com; http://www.insignia.com. □



Insignia's SoftWindows 95 lets users run Windows 95 programs on their Macs, including the 32-bit version of Microsoft Excel.

StarGate card to put NuBus into PCI Macs

Five months after it made the official announcement, Power Computing Corp. this week expects to ship StarGate, a PCI-to-NuBus card for its PowerWave clones.

The card was initially delayed because of a manufacturing problem (see 01.08.96, Page 142); according to Power, extensive quality-assurance testing further delayed shipment. The company promised to post a list of compatible NuBus cards on its Web site.

Power Computing Corp. of Round Rock, Texas, can be reached at (512) 388-6868 or (800) 999-7279; fax (512) 388-6799; info@powercc.com; http://www.powercc.com. □

APPLE SHIPS UNIX NETWORK SERVERS

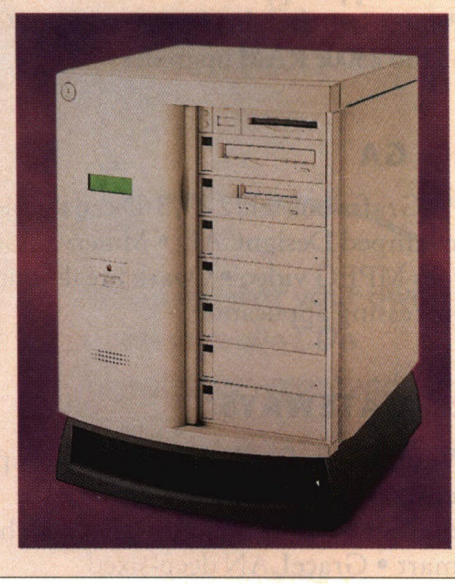
Apple last week began shipping its high-end Network Servers.

The Unix boxes are available in several versions. An entry-level, diskless Network Server 500 costs $8,819 and includes a 132-MHz PowerPC 604 processor with 32 Mbytes of RAM, 512 Kbytes of Level 2 cache and a quadruple-speed CD-ROM mechanism.

A base Network Server 700 goes for $11,829 and holds a 150-MHz PowerPC 604 processor with 32 Mbytes of RAM, 1-Mbyte cache, a 1-Gbyte Fast and Wide SCSI-2 hard drive, and a 4x CD-ROM drive.

Options include a Digital Data Storage-2 DAT drive, additional Fast and Wide SCSI-2 hard drives, Apple's hardware RAID PCI controller, and 10- and 100-Mbps Ethernet PCI cards.

Users must purchase the $1,489 AIX for Apple Network Server Accessory Kit, which includes AIX software (see 02.26.96, Page 1).



Radius spinoff draws plan to make splash in printing

By Kristin Balleisen

With new products reportedly in the queue and its independence established, Radius Inc.'s print-server spinoff, Splash Technology Inc. of Sunnyvale, Calif., hopes to be the next Silicon Valley Cinderella story.

The deal, finalized in late January, had Boston-based venture capital firm Summit Partners putting up $23.5 million for an 80 percent stake in the new company; Radius retained the remaining 20 percent and a seat on the board of directors.

"To achieve its destiny, [Splash] had to be separate from Radius," said Kevin Macgillivray, Splash CEO and former vice president of Radius' publishing division. "We didn't use their [sales] infrastructure ... and we couldn't retain our profits. But as separate entities, we can really spread our wings."

Splash will make its official debut at April's On-Demand Digital Printing and Publishing show in New York. Sources close to the company said the show will also be the scene of a new product launch — reportedly, a new PCI-based color copier RIP that includes a PowerPC 604 chip.

In addition, the new spinoff is reportedly looking beyond output; sources said it is investigating applying its color technology to display subsystems and Internet products.

The company sells PowerPC 601-based, Adobe PostScript Level 2 Splash boards and software, which range in price from $17,000 to $20,000, as well as turnkey Mac-based RIP systems for $20,500 to $33,500.

While RIP rival Electronics for Imaging Inc. of San Mateo, Calif., supports copiers from Canon U.S.A. Inc., Minolta Corp. and Ricoh Corp., Splash RIPs drive only Xerox Corp.'s MajestiK and Regal 5790 models.

Industry analyst Robert Feinblatt of New York-based brokerage firm Furman Selz LLC said color copier sales are up 30 percent from last year, with connecting servers rising even faster. "It's quite an attractive market," he said.

Backup software is included, but file and print servers must be purchased separately. □

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As Mary Lou Johnson, VP of Reservation Systems for Budget Rent a Car Corporation, puts it, *"The increased speed and powerful networking capabilities of our Power Macs are additional factors contributing to improved productivity and time savings."*

Thanks, Mary Lou. There's a lot more to come.

Apple

http://always.apple.com

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Big Business to wrap finance apps in Web

By Clifford Colby

Adding a stack of new features, Big Software Inc. plans to ring up a new version of its Big Business integrated financial-management and accounting software by the end of April.

Version 2.0, which is not yet priced, will include Internet authoring capabilities, which can create Web pages automatically from Big Business databases, including catalog prices and images.

Version 2.0 will come with a built-in report and forms designer. Users will now be able to save reports to a text file.

In addition, the update will expand import and export capabilities; it will import check and journal payroll data from CheckMark Software Inc. and Aatrix Software Inc. payroll systems as well as data from Intuit Inc.'s Quicken personal finance software.

Although pricing for the new version has not been set, users who purchased Big Business after Jan. 1 can upgrade to Version 2.0 free; users who purchased it before January can receive a $100 rebate. Sites running Big Business Server can upgrade for $199 per user.

Big Business 2.0 will automatically turn business data into a Web page.

Big Software Inc. of Los Altos, Calif., can be reached at (415) 919-0200 or (800) 970-0022; fax (415) 919-0205; http://www.bigbusiness.com. □

New TechTool uncovers glitches

By Joanna Pearlstein

Putting systems through their paces, MicroMat Computer Systems recently released TechTool Pro, the company's new hardware diagnostic utility.

The $150 TechTool Pro can test for and identify more than 300 hardware and software problems, MicroMat said. The new program expands on MicroMat's free TechTool, which can zap parameter RAM, rebuild the desktop and provide basic system information.

According to the company, TechTool Pro can test a variety of internal hardware components, including RAM, ROM, cache memory, PRAM, FPU (floating-point unit), video, video RAM, serial ports, and floppy and hard drives; it also checks connected external units, including ADB input devices and storage.

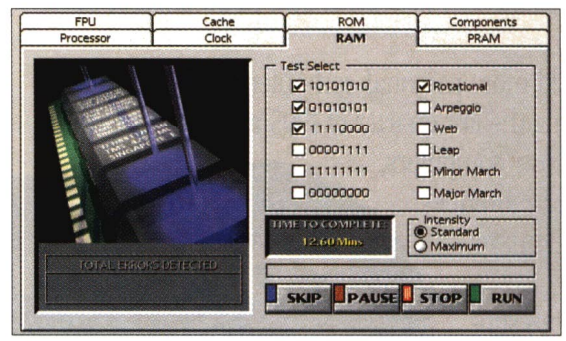
"It takes testing to a whole other level of depth," said Dan Casselberry, a free-lance graphics designer in Elizabeth, N.J. "It's a very comprehensive program," he said.

The new software can find corrupted programs and files, identify extension and program incompatibilities, and compare system performance to benchmarks, MicroMat said.

System managers can run the entire test suite in an Auto Pilot mode or customize sets for particular programs. The software comes with on-line help that guides users through each test and assists in analyzing results. TechTool Pro test data can be viewed on screen or printed in a report format.

Scott Andersen, Apple technical champion at The Future Now, a value-added reseller in Cincinnati, uses TechTool Pro to evaluate used systems before resale. "This tool is invaluable for that process," Andersen said. "It's quick, easy to install and runs on every Mac."

MicroMat Computer Systems of Windsor, Calif., is at (707) 837-8012 or (800) 829-6227; fax (707) 837-0209; micromat@nbn.com; http://micromat.com/mmcs. □



Users can test a panoply of Mac hardware and software with MicroMat's TechTool Pro utility.

For the record

In the 03.18.96 StockWatch (Page 78), stock prices for Fractal Design Corp. and Graphsoft U.S. Inc. were incorrect; the correct numbers are $13.25 and $6.63, respectively.

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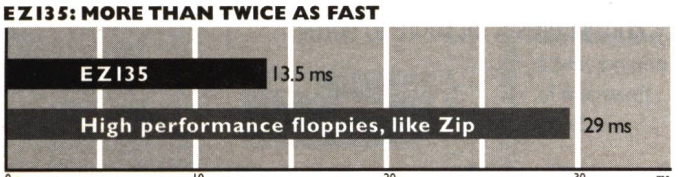

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Apple names Tesler Internet czar

By James Staten

Apple Chief Scientist Larry Tesler last week took charge of the company's disparate Internet efforts.

Tesler, 50, is now vice president of Internet platforms; his duties include overseeing the creation of Internet products, forging business alliances around key technologies and making sure all divisions at Apple build products that embrace the Internet.

"The first thing to do will be to articulate our Internet strategy," he said at last week's PC Forum conference in Tucson, Ariz. He added that Apple's plan will become clear in coming months after the company announces "key alliances with leading Internet companies" and unveils a collection of new products. Apple's first action with Tesler in charge was to join the World Wide Web Consortium, the body that defines cross-platform Web standards.

Three departments report directly to Tesler. Internet Products Business Development Group will manage Apple's relations with third-party developers, including Netscape Communications Corp., Sun Microsystems Inc. and Adobe Systems Inc.

The Internet Program Office will coordinate all Internet development efforts throughout the company, while the Internet Engineering Group will oversee Internet-specific products not covered by other projects. These include Cyberdog as well as the Apple Internet Connection Kit and Internet Server Solution but not Internet-related work on the Copland OS. Tesler will also manage all of Apple's Internet and intranet services, such as http://www.apple.com/.

Tesler comes to this new role from Apple's Research and Development Division; before that he was vice president and chief technical officer for eWorld.

His appointment is the first internal executive advancement by new CEO Gilbert Amelio. Since taking office, Amelio has appointed outsiders from National Semiconductor Inc. and PepsiCo Inc. to fill the roles of chief administrative officer and chief financial officer. □

OpenDoc given nod as standard

By Clifford Colby

Giving OpenDoc a boost, the Object Management Group Inc. last week announced it has adopted the OpenDoc specification as its industry standard for distributed component software.

The Object Management Group, or OMG, is a Framingham, Mass.-based industry consortium that promotes object technology for the development of distributed computing systems. Among the standards endorsed by OMG is CORBA (Common Object Request Broker Architecture), which defines interactions among objects.

OpenDoc complies with CORBA through its implementation of System Object Model, IBM Corp.'s scheme for language-independent packaging of parts. By supporting CORBA, OpenDoc parts will be able to communicate with CORBA-based back-end systems, such as Oracle Corp.'s upcoming object-oriented architecture.

"Obviously this is a boost — anything that says 'industry standard' has to be a boost," said Jesse Feiler, software director for the Philmont Software Mill in Philmont, N.Y. "People are seeing OpenDoc is a stable, reliable architecture. All these announcements build its momentum, and maybe developers will say now is the time to move to it."

In related news, Component Integration Laboratories Inc. announced today that Justsystem Corp. of Japan has joined the Sunnyvale, Calif.-based consortium promoting the OpenDoc standard. □

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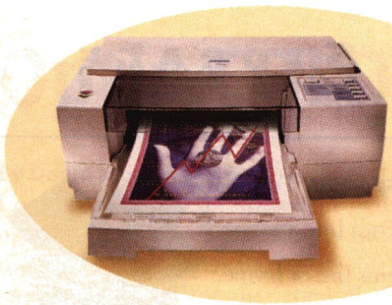

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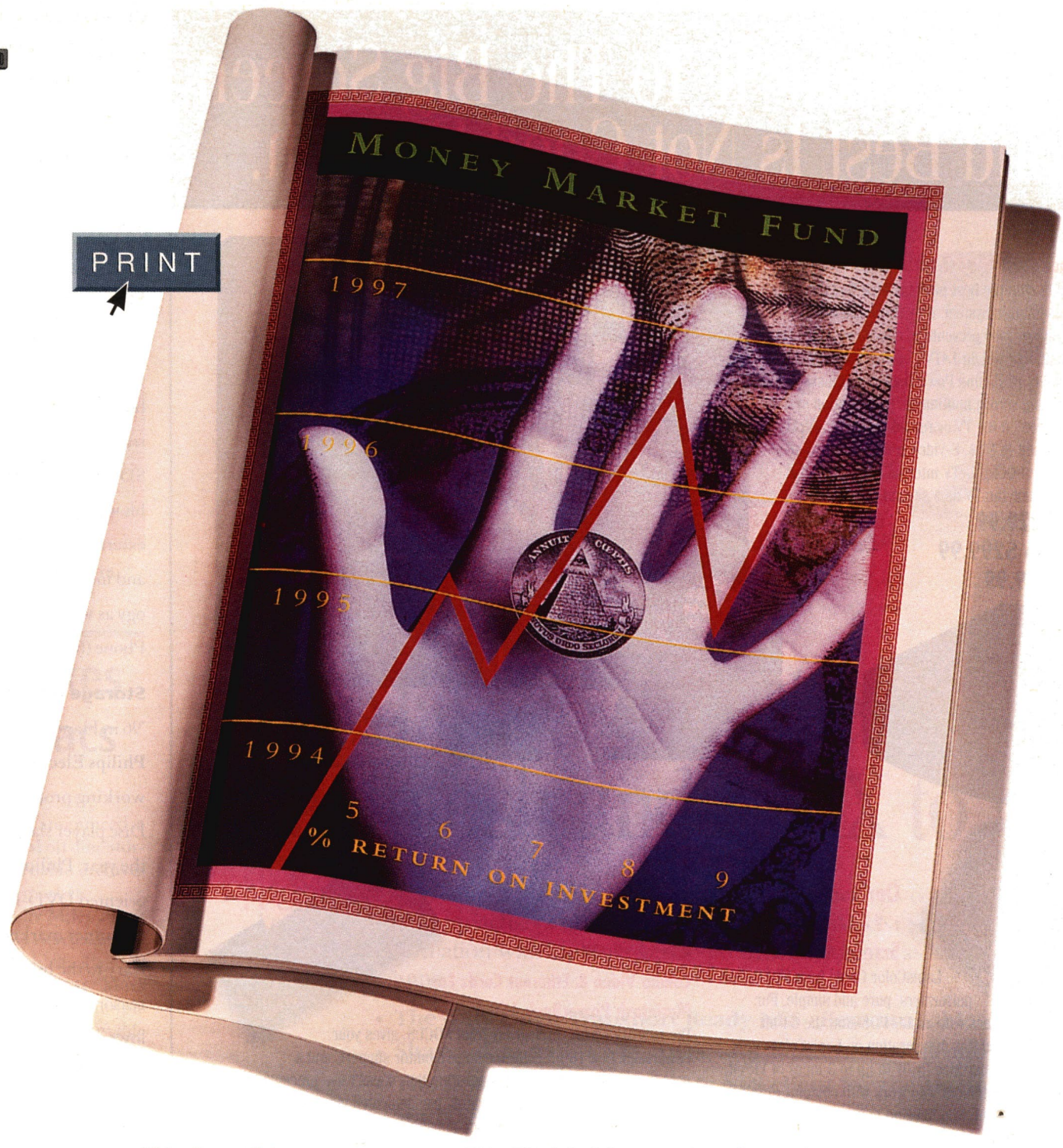

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Utility speeds printer access

Users looking for an easy way to print to different devices on their networks can get relief with PrinterSwitch, a new shareware utility from Brookline Software.

The $14 control panel lets users change their currently selected printer from the Print or Page Setup dialog boxes without having to go through the Chooser every time. The program selects the proper PostScript Printer Definition file when switching between printers, Brookline said.

Printers are added automatically to the PrinterSwitch pop-up list after they are selected in the Chooser. Managers can also create sets that direct users to specific printers.

In addition, PrinterSwitch comes with a Control Strip module that allows printers to be changed even within applications that do not support the standard print dialogs, such as Adobe PageMaker.

A site license is $280; a 14-day trial version of PrinterSwitch is available on-line.

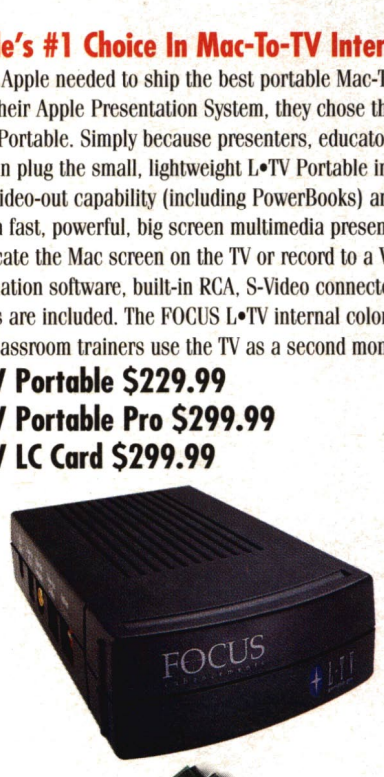
Brookline Software of Brookline, Mass., can be reached at (617) 566-0883; brookline_software@kagi.com. □

When You Make It To The Big Screen Second Best Is Not Good Enough.

Apple's #1 Choice In Mac-To-TV Interfaces

When Apple needed to ship the best portable Mac-To-TV interface with their Apple Presentation System, they chose the FOCUS L•TV Portable. Simply because presenters, educators and trainers can plug the small, lightweight L•TV Portable into a Mac with video-out capability (including PowerBooks) and instantly have a fast, powerful, big screen multimedia presentation system. Duplicate the Mac screen on the TV or record to a VCR. Flicker elimination software, built-in RCA, S-Video connectors and all cables are included. The FOCUS L•TV internal color card also lets classroom trainers use the TV as a second monitor.

L•TV Portable $229.99
L•TV Portable Pro $299.99
L•TV LC Card $299.99



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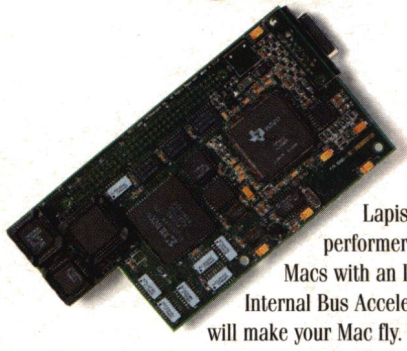

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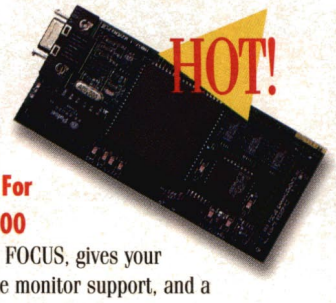

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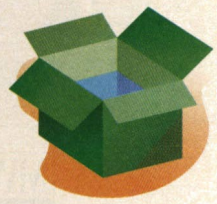


CD speedy. Toshiba America Information Systems Inc. of Irvine, Calif., this month released new 6.7-speed CD-ROM drives. The XM-3701 mechanism comes in $320 internal and $420 external Fast SCSI-2 versions with average data transfer rates of 1 Mbyte per second; the units also support single- and double-speed modes. The drives can be used as stand-alone audio CD players. Phone (714) 455-0407; fax (714) 455-6382; http://www.toshiba.com.

In an Ultra mood. Paralan Corp. of San Diego took the wraps off its converter boxes for Ultra SCSI-to-differential SCSI translation. The $475 SD10B and $625 SD16B support eight-bit narrow and 16-bit wide Ultra interfaces, respectively. The external units come with a power block and incorporate noise-reduction technology as well as autosensing termination. Phone (619) 560-7266; fax (619) 560-8929.

Storage bits and bytes. At CeBIT '96 in Hanover, Germany, last week, **Philips Electronics Inc.** demonstrated a working prototype of a Digital Video Disc player slated to ship near the end of the year. Philips expects the computer-oriented DVD-ROM market to lead the consumer market for DVD players, contrary to the history of the CD-ROM. One reason: The DVD data drive will sport a lower price tag than the video box. … In March, **Iomega Corp.** of Roy, Utah, said it had shipped 1 million Zip drives since the drive's introduction a year ago. Users have purchased almost 10 million cartridges as well. … A group of storage manufacturers recently formed the **SCSI Trade Association,** based in St. Peter, Minn. Pledging to push parallel SCSI, rather than the trendy, speedy serial flavors, the group said "SCSI is alive and well!" Who knew it was so sick?

— By David Morgenstern

Optix COLD freezes data

By David Morgenstern

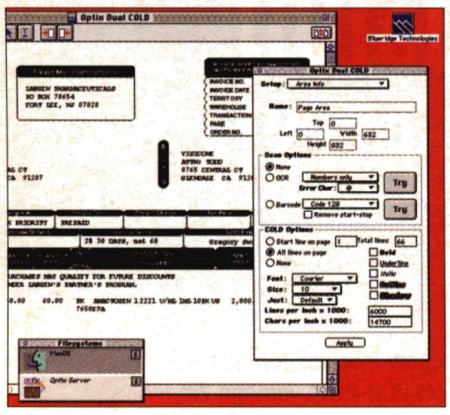
Looking to warm up document-delivery options, Blueridge Technologies Inc. this month will ship Optix COLD, an off-line archival system for its cross-platform Optix document servers.

In addition to the usual archiving of text documents, the $75,000 software will let users store data as TIFF images, Optix said. Optix COLD will index stored documents automatically and let users view mainframe data as forms on the Mac.

Form layouts will support multiple fonts and type sizes as well as a variety of line lengths and field orientations; backgrounds will include scans of paper forms, Optix said.

Managers can archive the data to RAID, tape or optical storage, Optix said. Depending on the site license, current Optix users can upgrade starting at $25,000.

Blueridge Technologies Inc. of Flint Hill, Va., can be reached at (540) 675-3015; fax (540) 675-3130; optix@blueridge.com; http://www.blueridge.com. □



Optix COLD lets Mac users create forms to view archived mainframe data.

Duo 2300c gains RAM upgrades

Viking Components Inc. recently shipped memory upgrades for the new PowerBook Duo 2300c.

Viking's 2300 memory modules come in 8-, 16-, 24-, 32-, 40- and 48-Mbyte capacities and cost $570, $1,070, $1,590, $2,120, $2,650 and $3,170, respectively.

The PowerPC-based Duo comes with one RAM expansion slot and 8 Mbytes on board; it supports up to 56 Mbytes of RAM.

Viking Components Inc. of Laguna Hills, Calif., can be reached at (714) 643-7255 or (800) 338-2361; fax (714) 643-7250; http://www.vikingmem.com. □

NSM jukeboxes slated for Macs

By Stephen Howard

NSM Jukebox this month announced a deal that makes its CD-ROM off-line storage devices and CD-Recordable archives more accessible to the Mac market.

The company will bundle Miles Apart networking software from Astarte GmbH of St. Paul, Minn. (see 02.12.96, Page 8) with its Mercury and CDR lines. Miles Apart presents the contents of multiple CD-ROMs as a single, Finder-mountable network volume. NSM will sell the software in a 10-user pack for $3,499 and an unlimited-client version for $4,299.

With the software side in place, users will be able to use NSM's existing CD-ROM changers on AppleTalk networks. Its $7,995 CDR 100 XA jukebox stores 100 discs and uses one Toshiba quadruple-speed drive.

The company's $17,995 Mercury 20 and $18,995 Mercury 40 models swap up to 150 discs into two and four 4x Toshiba drives, respectively.

For archiving, NSM will sell its $13,995 CDR 100 Recordable box. This SCSI-2 device combines up to 100 CD-R discs with one 4x Yamaha CD-R mechanism.

NSM Jukebox of Bensenville, Ill., can be reached at (708) 860-5100 or (800) 238-4676; fax (708) 860-5144. □

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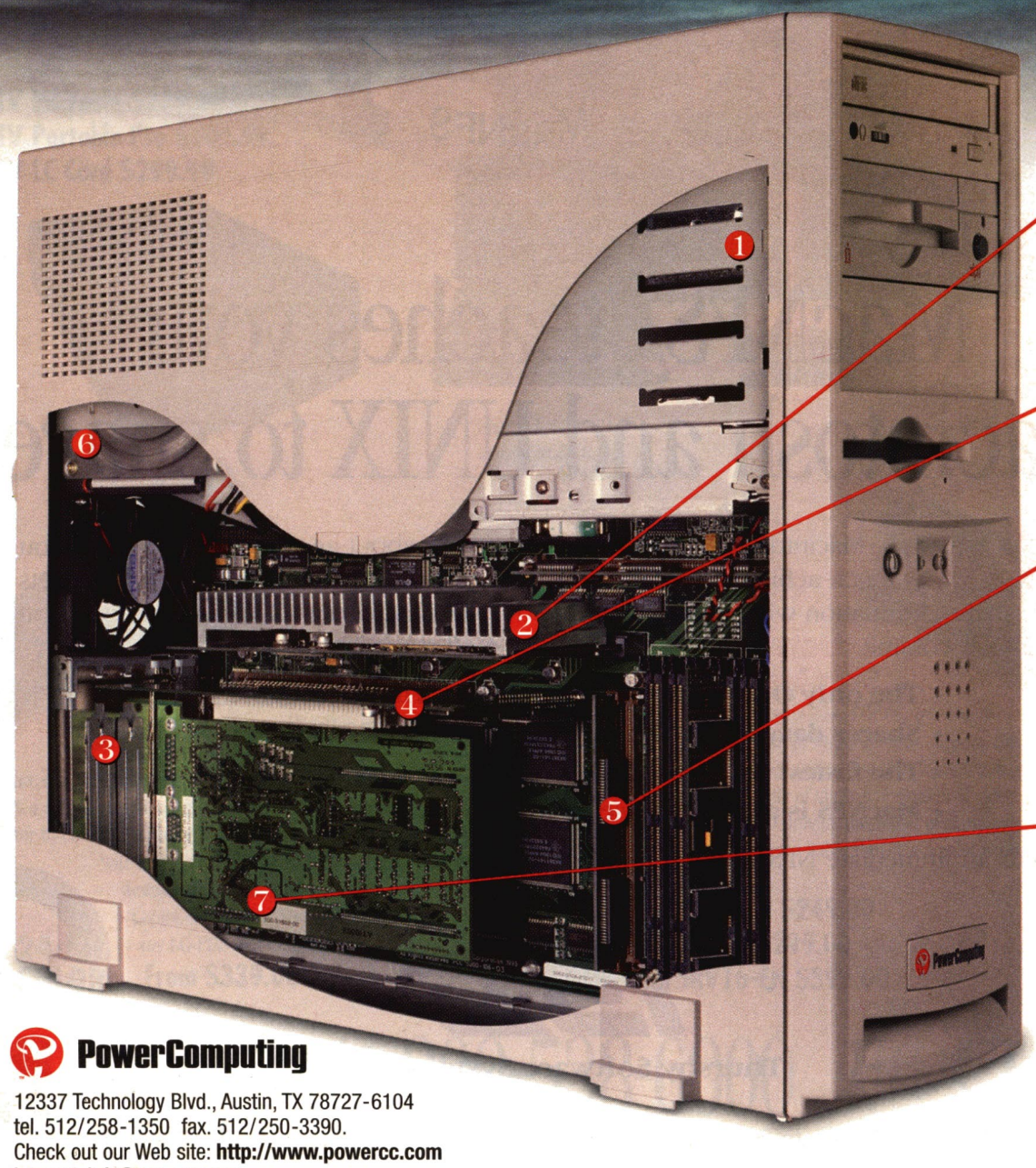

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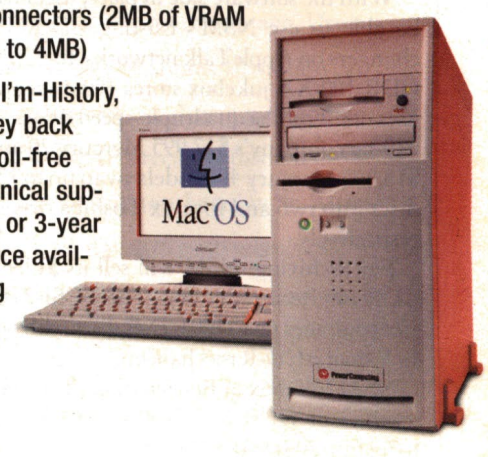

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Macworld- Aug 95

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"A machine we love even more than the PowerMac 7500 - the PowerWave 604"
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New York Times, November 7, 1995

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64-bit PCI Graphics w/2MB VRAM
Extended Keyboard & Mouse

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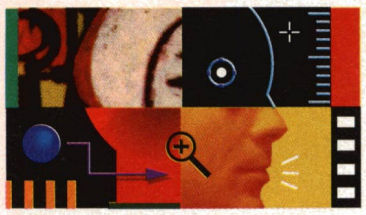


GA

MIRO'S CHEAP PCI

miro Computer Products Inc. has shipped its miroMotion DC20 video card, which carries a low price of $999.

ViaGrafix to reshape DesignCAD for Macs

By Matthew Rothenberg

ViaGrafix Software Division is ready to round out its CAD offerings with a new version of DesignCAD 2D/3D, which will add 3-D rendering capabilities and a variety of editing tools.

The $299 drafting and design application will jump from the current version, 3.0.1, to Version 8.0 in the second quarter. In addition to making the release numbers consistent across platforms, the new version will add solid-modeling capabilities for 3-D objects. According to ViaGrafix, Boolean operations will let users add to, subtract from or slice through objects. It will be able to remove shading or background lines from 3-D objects to make them appear solid.

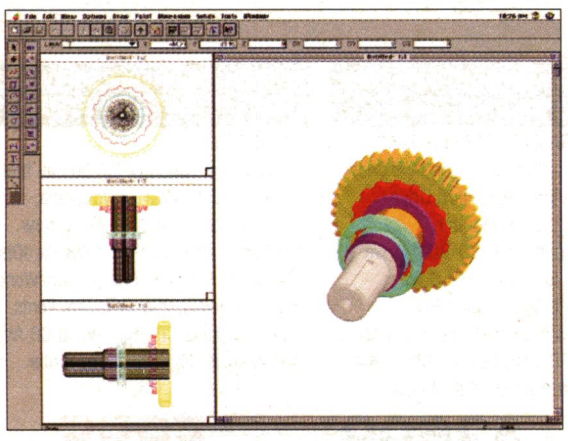
With Version 8.0, users will be able to calculate the surface area and volume of an object by double-clicking on it. New autodimensioning features will generate dimensions based on a fixed reference point. Version 8.0 will also include twice as many radial and diametrical dimension commands as the previous version, ViaGrafix said.

New 2-D editing tools will include trim, fillet and chamfer controls, and users will be able to switch between 2-D and 3-D modes to apply these tools to 3-D objects. For example, Trim will now let users cut short intersecting lines in a floor plan that can subsequently be extruded in 3-D. The upgrade will feature interactive editing capabilities.

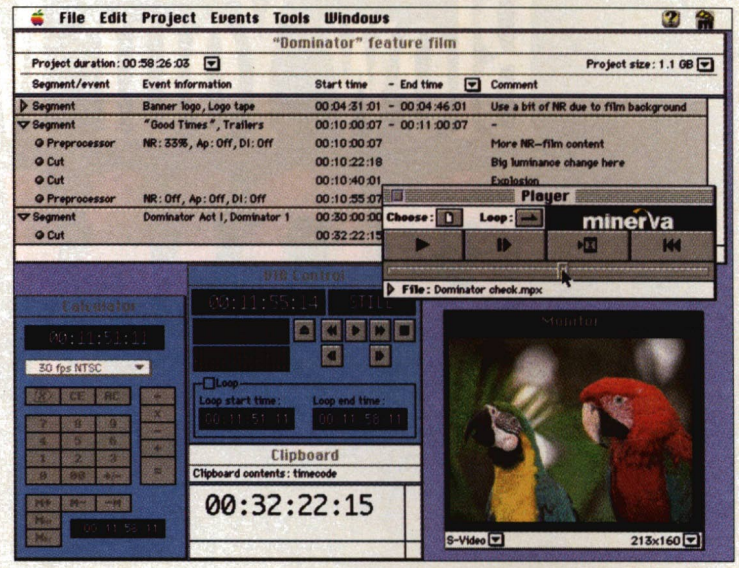
Version 8.0 will let users import and export DesignCAD files to MacRenderMan format. New DXF (Drawing Interchange File) filters will work with AutoCAD 12, ViaGrafix said. The software exports DXF, PICT, EPS and RIB (RenderMan Interface Bytestream) formats, among others, and works with TrueType and Type 1 fonts.

DesignCAD 2D/3D 8.0 will be available for Power Mac and 680x0-based models. Owners of previous versions will be able to upgrade for $79.95.

ViaGrafix Software Division of Prior, Okla., can be reached at (918) 825-7555 or (800) 233-3223; fax (918) 825-6359. □



Getting in gear: DesignCAD 2D/3D 8.0 will add solid-modeling capabilities and let users remove shading or background lines from 3-D objects.



Minerva Studio is the software component of the $17,000 Minerva Publisher system. The software's Premiere-like editing environment drives an MPEG-1 digital encoding and processing engine.

Minerva Publisher packs MPEG tools

By Kelly Ryer

April 15 will bring more than just taxes this year for digital video users. It will also mark the ship date of Minerva Publisher, a new MPEG-1 video-publishing system from Minerva Systems Inc.

The $17,000 system comprises a software suite and a large black box containing a hardware engine and will be announced at next month's National Association of Broadcasters conference in Las Vegas. The system will require but will not include a dedicated Power Mac 7500 or 7600 with at least 24 Mbytes of RAM, a 265-Kbyte cache, and a 2-Gbyte or larger AV hard drive.

Minerva Publisher is "like prepress is to desktop publishing," said

See Minerva, Page 16

Xerox debuts oversize inkjet

By Kristin Balleisen

Elbowing into the North American inkjet market, Xerox ColorgrafX Systems Inc. this month unveiled its newest large-format inkjet printer.

The VivagrafX XL will output a variety of media up to 36 inches wide.

The VivagrafX XL, due to ship in April for $15,995, is based on the same engine as EnCAD Inc.'s NovaJet Pro plotter (see 10.09.95, Page 12). According to Xerox, the new printer can output four-color, 300-dpi images measuring up to 36 inches wide and 100 feet long. It can print to a variety of cut-sheet and roll-fed media, including adhesive vinyl and canvas, as well as clear and white-backed polyester film.

Xerox said the VivagrafX XL features five print modes: draft, normal, draft three-pass, enhanced three-pass and enhanced four-pass. According to the company, the device takes about 30 minutes to output a poster-size image in enhanced four-pass mode.

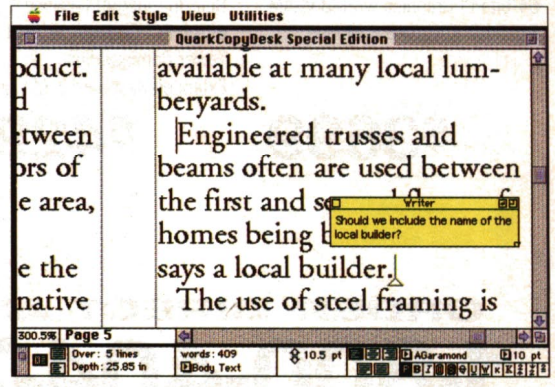
See Xerox, Page 16

Quark gets word out with text-processing software

By Matthew Rothenberg

It might not steal too much of Microsoft Word's thunder, but Quark Inc. has released a stand-alone version of its text-processing and editing application. The company said QuarkCopyDesk Special Edition is aimed at professional writers and editors who are using QuarkXPress, the company's page-layout application.

The package offers the copy-fitting and text-processing capabilities of Quark Publishing System, Quark's system for workgroup publishing. Quark CDSE gives writers information on line counts, and hyphenation and justification. The package matches the typographical characteristics of an XPress page and offers a black-and-white preview of the first XPress page in which a story will appear. CDSE users also have access to XPress style sheets, Quark said.



One of three views available with Quark CDSE, this WYSIWYG mode lets users preview text documents. Annotations appear as sticky notes.

Because users download copy-fit information directly from XPress layouts, the product does not require QuarkDispatch, the server-resident database application designed to track files created with QPS.

CDSE is available for an introductory price of $195 through April; after that, it will cost $295.

Quark Inc. of Denver can be reached at (303) 344-3491 or (800) 326-3946; fax (303) 894-3399.

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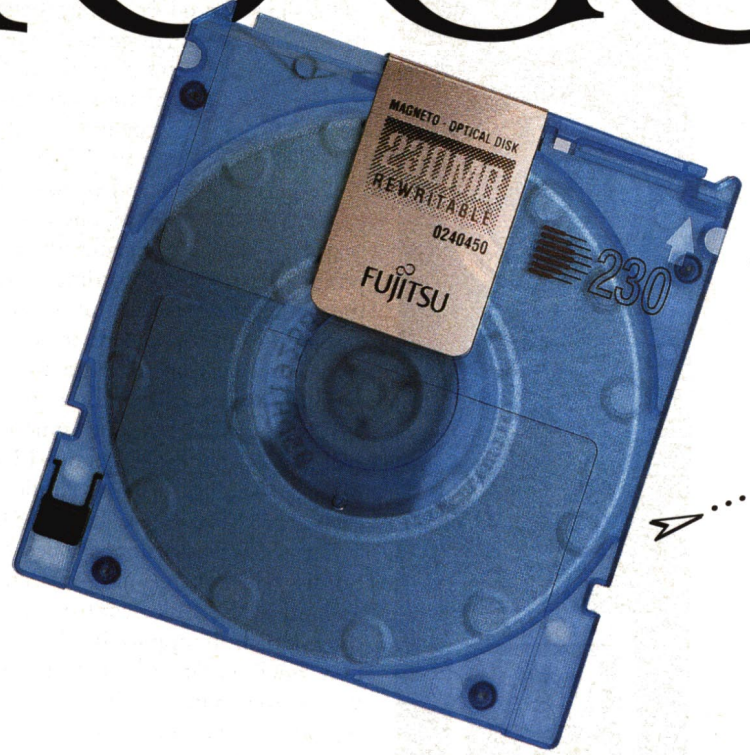

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Sweet xs for Media 100

By Kelly Ryer

The deafening digital noise at next month's National Association of Broadcasters show in Las Vegas will include an announcement from Data Translation Inc. The Marlboro, Mass.-based company will announce the Media 100 xs, an upscale digital video system due in the fourth quarter.

Unlike the low-cost Media 100 qx, announced in December (see 12.04.95, Page 1), the new Media 100 xs is aiming for the top of the Media 100 product line. Designed for broadcast and post-production markets, it will offer a superset of the Media 100's current features. Official pricing information is not yet available, but sources said the board will cost about $30,000.

According to Data Translation, the system will let users generate real-time effects, such as dissolves, wipes, slides and pushes, as well as real-time chroma keying and titling. A Power Mac 9500 equipped with a fast disk array and the Media 100 xs will be able to compress 300 Kbyte-per-frame motion JPEG at ratios of 2-to-1, the company said.

Sources said the new package's real-time editing effects will only be available in a draft mode. However, the Media 100 xs will reportedly also support six tracks of audio, edit-decision list import and export, and draft-mode blue-screen compositing. The Media 100 xs will be based on the same Vincent PCI board as previous Media 100 systems, sources said.

Data Translation is pitting the Media 100 xs against Avid Technology Inc.'s Media Composer, which ranges in price from $39,900 to $98,900. Competition between the two companies is fierce: Data Translation recently launched a campaign that lets owners of Media Composer buy a Media 100 system for almost $10,000 off the list price.

In other news, Data Translation this month announced plans to create a new subsidiary responsible for development of the Media 100 product line. If Data Translation's shareholders approve the measure at their annual meeting on April 10, the new group will get a separate board of directors, although the subsidiary will still be financially linked to Data Translation. The company is considering selling shares of the new business unit publicly.

Data Translation Inc. can be reached at (508) 460-1600 or (800) 832-8188; fax (508) 481-8627; http://www.media100.com. □

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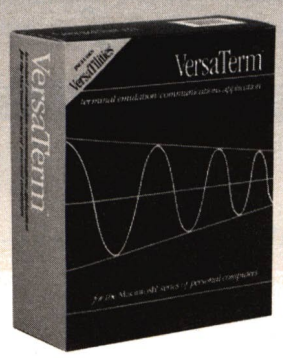

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Minerva

From Page 14

Enrique Godreau, research director for Gartner Group Inc. of Stamford, Conn. "This kind of product packages and preps the video for output, those final stages [when users lay] the bits to the medium. You can throttle MPEG video to match videotape, CD-ROM or Internet delivery."

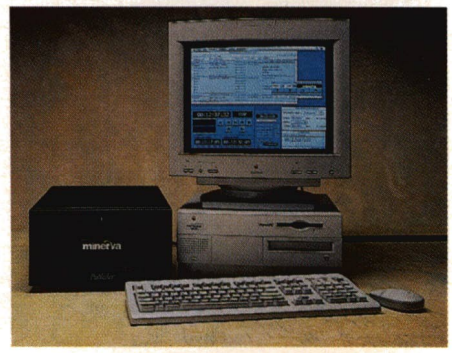
Minerva Publisher will handle NTSC or PAL (European) video input in composite, S-video and component YUV formats and will be able to output both composite and S-video. According to Minerva, the system supports resolutions of 352 by 240 pixels and can encode in real time at speeds ranging from 600 Kbps to 4.5 Mbps.

The system will accept digital AES/EBU and balanced analog audio files and will export them in Digital S/PDIF and balanced-analog formats. Audio sample rates are 32 kHz, 44.1 kHz and 48 kHz.

The software portion, dubbed Minerva Studio, will feature a plug-in architecture and offer VCR-like controls as well as drag-and-drop support. Its player will display video segments hierarchically. Users will be able to insert I-frames and control bit rates, and a timecode calculator will have a "paper tape" scroll.

"It has one great feature that I really value," said beta tester Masha Dikosavljevic, multimedia director at Bell Atlantic Creative Services of Arlington, Va. "Its automatic scene detection automatically forces MPEG I-frames on sudden scene changes, like cuts. It's really useful for broadcasting very fast-paced content, like music videos — MTV-type stuff."

Robert Mirani, senior analyst at The Yankee Group in Boston, said: "It looks a lot like [Adobe] Premiere. It looks very accessible, and at this price point, it's an attractive Mac-based option. It reasserts the Mac's pre-eminence in multimedia authoring."



Minerva Publisher's black box contains an MPEG-1 video-encoding engine. The system requires a dedicated Power Mac 7500 or 7600.

An additional $10,000 video preprocessing option will provide video filtering, noise reduction and deinterlacing. The $2,500 Minerva MPEG-2 Multiplexer plug-in option will combine streams of compressed audio and video into a single MPEG-2 stream. Future releases of Minerva Publisher will include options for MPEG-2 encoding, the company said.

Mirani said that Minerva Publisher may be competitive with more expensive nonlinear systems, but this may not guarantee sales. "I'm not certain how big that market is right now," Mirani said. "It will be interesting to see how many people bite at it."

Minerva Systems Inc. of Santa Clara, Calif., can be reached at (408) 970-1780 or (800) 806-9594; fax (408) 982-9877; http://www.minervasys.com. □

Xerox

From Page 14

The printer will ship with 4 Mbytes of buffer RAM, which can be expanded to 68 Mbytes with standard SIMMs. It will ship with RS-422 serial and Centronics parallel interfaces.

The new device will come with VivagrafX CTX software — a joint effort from Xerox and Fairfield, N.J.-based Cactus. The Adobe Photoshop plug-in will include an Adobe Configurable PostScript Interpreter Level 2 software RIP.

Xerox said the VivagrafX XL will come with four ink cartridges, four 500-milliliter bottles of ink and a sample roll of photo-glossy paper.

Xerox ColorgrafX Systems Inc., a wholly owned subsidiary of Xerox Corp., of San Jose, Calif., can be reached at (800) 247-4412 or (408) 225-2800; (408) 229-3617; http://www.xerox.com. □

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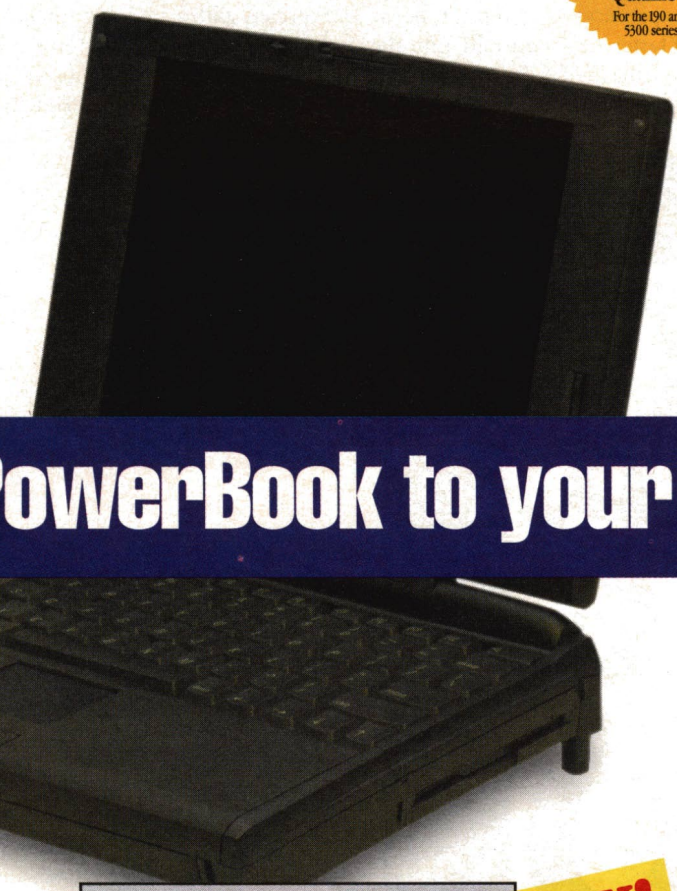

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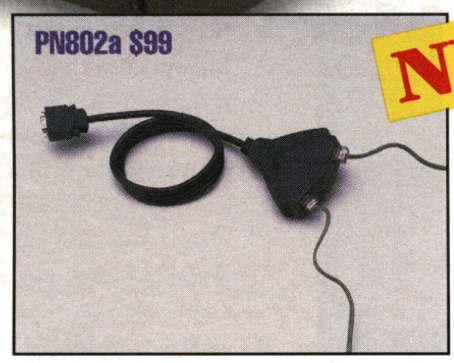

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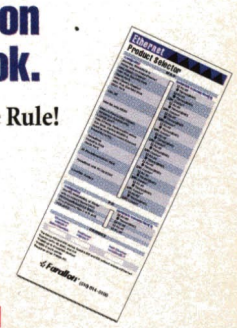

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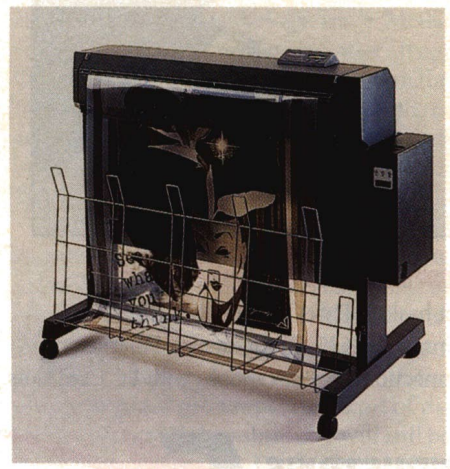
CalComp tones up EcoGrafix plotter

By Matthew Rothenberg

CalComp Inc. this month boosted the performance and cut the price of its EcoGrafix large-format, dry-film plotter. The company also announced a 600-dpi member of its ScanPlus III line of large-format scanners.

The EcoGrafix II is shipping now for $31,995, compared with $39,995 for the original EcoGrafix system. The new model's mechanical media throughput rates are double those of its predecessor, and print speeds are 60 percent faster, CalComp said. Like the original version, the EcoGrafix II's direct-to-film technology lets users generate color separations without chemicals or manual stripping of smaller images.

An external Adobe PostScript Level 2 interpreter, with a 33-MHz Intel i960cf RISC chip and 65 Type 1 fonts, drives the EcoGrafix II. The previous version of the plotter used CalComp's Print Bridge RIP, which ran a third-party Level 1 interpreter on a 25-MHz AMD RISC CPU. The new RIP includes multiprotocol Ethernet, LocalTalk, RS-232 serial and Centronics parallel ports. It ships with 16 Mbytes of RAM, which can be expanded to 128 Mbytes, and a 270-Mbyte hard disk. Users can buy the plotter without the RIP for $26,995.



CalComp's EcoGrafix II plotter uses EcoFilm, a proprietary heat-sensitive medium that requires no processing chemicals.

The EcoGrafix II uses a proprietary thermal engine to output 400-by-800-dpi images measuring up to 35.13 inches by 20 feet. The device accommodates 36-inch-wide film, paper or vellum and can print 0.4 inches per second to film and 0.5 inches per second to paper. A 200-foot roll of dry film costs $1,250, CalComp said.

This month CalComp also tweaked its Solus 4 plotters. The D- and E-size models, priced at $22,995 and $34,995, now print 26-foot-long continuous plots; earlier versions could handle only 8-foot-long continuous segments or 20-foot-long tiled plots. CalComp is also selling 2- or 4-Gbyte hard drives for the plotters, up from the 540-Mbyte option available previously.

The Solus 4 devices are based on 400-by-400-dpi LED engines. Each accommodates two media rolls in drawers; users can print to film or plain paper. The plotters ship with parallel and serial ports and can be upgraded to Ethernet. They come with 16 Mbytes of RAM; the D- and E-size versions ship standard with 365- and 420-Mbyte hard drives, respectively.

In CalComp scanner news, the company rolled out the ScanPlus III 600, a new 600-dpi model that replaces the 500-dpi ScanPlus III 500. The new scanner costs $12,595, the same as the 500.

Like the 300-, 800- and 1,000-dpi ScanPlus III scanners, the 600 captures in a single pass eight-bit gray-scale or monochrome images measuring up to 36 inches wide. The SCSI device can scan an E-size CAD drawing at 300 dpi in about 37 seconds, CalComp said.

Software included with the scanner corrects skewing and speckling in images. The device also implements CalComp's Compressed Raster Format, so users can output scans directly to a CalComp plotter. The ScanPlus III 600 supports TIFF 5.0, PCX and several other file formats.

CalComp Inc. of Anaheim, Calif., can be reached at (714) 821-2000 or (800) 932-1212; fax (714) 821-2832. □

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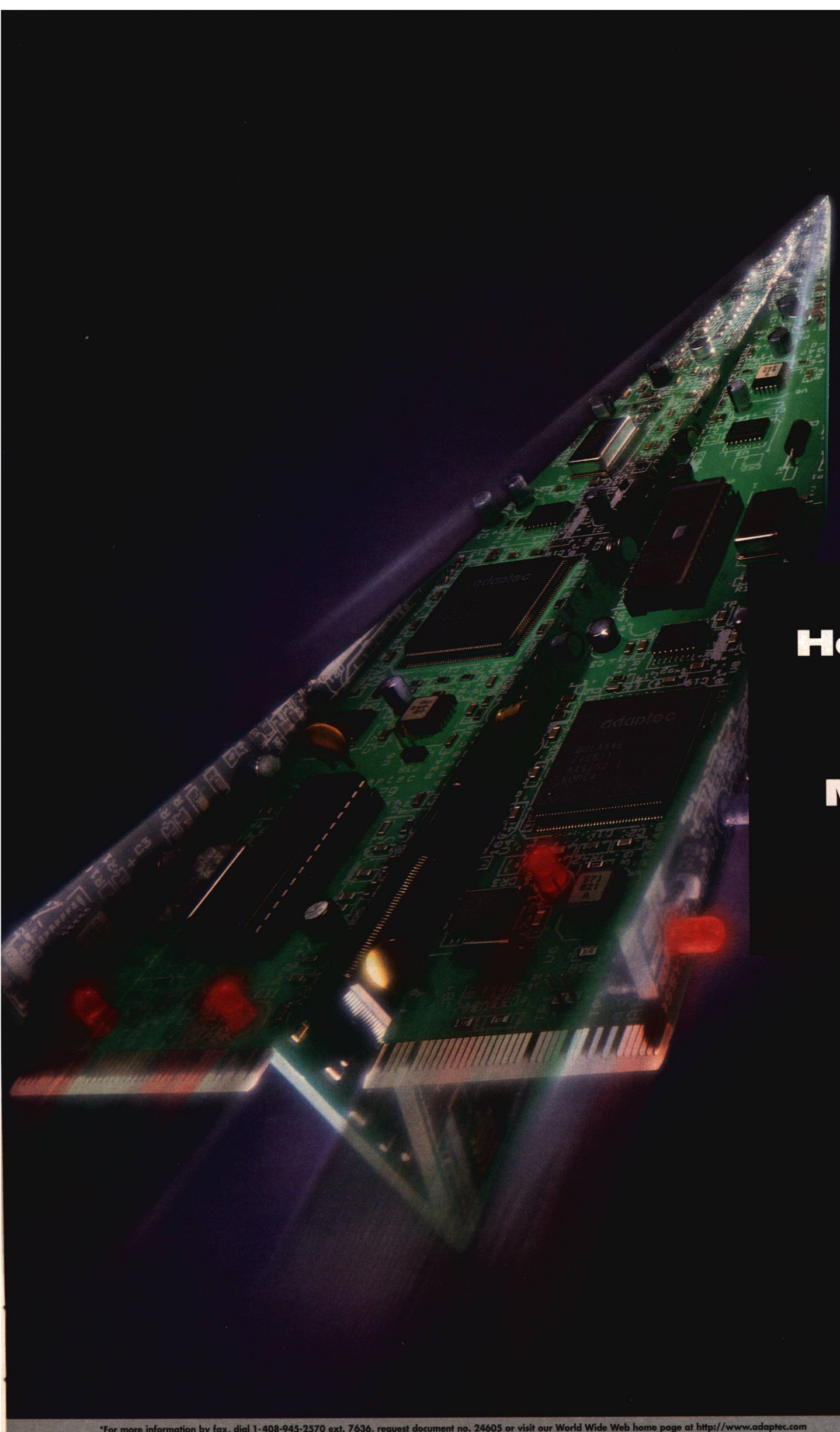

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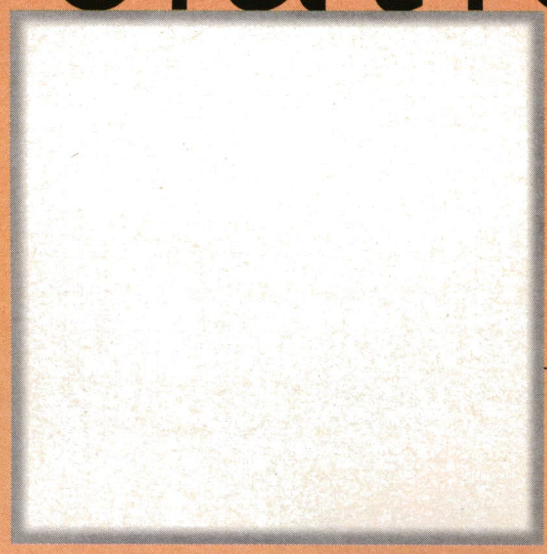

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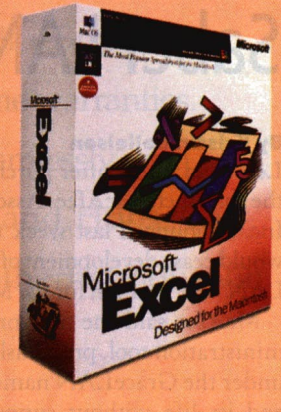

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WebRamp puts Macs in ISDN, net fast lane

It combines hub, router, fire wall

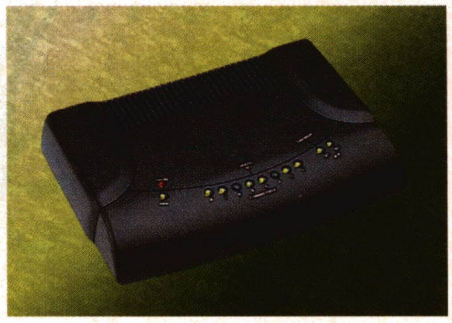
By Joanna Pearlstein

Trancell Systems Inc. in May will release the Neapolitan ice cream of network devices.

Priced from $695, WebRamp will combine an Ethernet hub, router, ISDN (Integrated Services Digital Network) terminal adapter and TCP/IP fire wall. With one WebRamp, a small office can link machines to a network, route network traffic and connect to the outside world with ISDN.

The included ISDN terminal adapter will be a dual-channel device that can transmit data at speeds up to 128 Kbps; it will support MultiLink PPP for channel aggregation. With WebRamp's fire wall, users will be able to restrict the type of packets that can be transmitted as well as the Internet Protocol addresses that can be contacted.

"I'm pretty impressed with [WebRamp]," said Michael Heylin, senior associate at Creative Strategies Consulting in San Francisco. "What I really like about it is that it's a low-cost ISDN router to start with, and when it's coupled with the Ethernet hub, it's really attractive."



Trancell's WebRamp provides Ethernet networking and ISDN Internet connections.

WebRamp will route only IP and IPX traffic; an IPX-to-IP gateway will convert outbound IPX traffic to IP format.

An eight-port IP version of WebRamp will be priced at $695; an eight-port IPX model will cost $995. Additional WebRamp configurations will be available, including a four-port unit, models with ports for connecting to existing hubs and a version with PC Card slots for credit card-size modems. A version with two analog POTS (plain old telephone service) will also be available. Pricing for these models was not available.

A graphical configuration application used to set up ISDN and Internet parameters will be included with WebRamp along with a site license for Netscape Navigator.

Trancell Systems Inc. of Santa Clara, Calif., can be reached at (408) 988-5353; fax (408) 988-6363; webramp@trancell.com. □

NEWS ANALYSIS

Microsoft pushes OLE for Internet

By James Staten

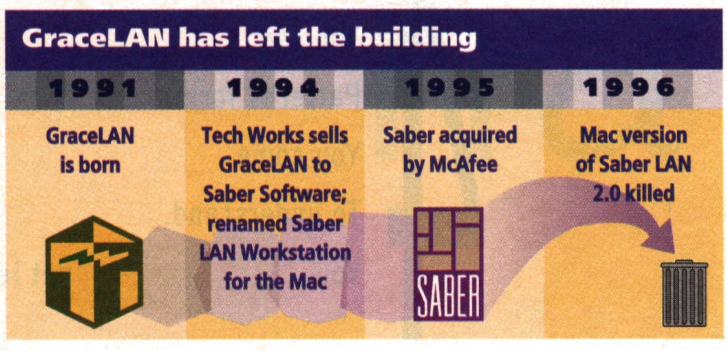
Microsoft Corp. last week changed the name of OLE Controls to ActiveX Controls and recast the technology as an architecture for delivering multimedia over the Internet. Yet the move could push the object technology further out of reach for Macintosh users.

The Redmond, Wash., company said it plans to implement ActiveX initially in Version 3.0 of its Internet Explorer Web browser; the two were unveiled together at the Microsoft Professional Developers Conference in San Francisco this month.

ActiveX Controls require OLE 2.0, which is not implemented on the Macintosh. At the conference, Microsoft said it would enlist Macromedia Inc.'s help to bring ActiveX to Apple's platform, but analysts said they doubted whether Microsoft would follow through on this promise.

Norm Meyerowitz, vice president of R&D at Macromedia, said the San Francisco-based multimedia company would not perform any development work for Microsoft. Macromedia will serve simply as an adviser, and its focus

See ActiveX, Page 25



Saber LAN's death rattle

By Kristin Balleisen

Less than a year after purchasing the product, McAfee Associates Inc. announced last week that it would cease development of Saber LAN Workstation for the Mac.

McAfee said the network administration tool, previously sold under the GraceLAN name, will end its life without supporting Open Transport or the PCI bus.

The company cited the above shortcomings and anemic sales for its decision to phase out the product. According to Saber LAN Product Manager Tracey Mustacchio, just over 1,000 copies of Version 2.0, which shipped in July 1995, have been sold.

"It really comes down to revenue," Mustacchio said. "We can't justify the expense of continuing with the product line."

Customer requests for consoles on the Windows 95 and NT plat-

See Saber LAN, Page 25

AppWare no longer homeless

By Clifford Colby

AppWare, the well-traveled cross-platform application-development system, has found a new home at start-up Network Multimedia Inc.

Ed Firmage, former director of marketing for Novell Inc.'s AppWare Group, is the new company's president. He said Network Multimedia will continue AppWare's focus on network-application development.

Last week the company unveiled a suite of ALMs (AppWare Loadable Modules) for Novell NetWare. Due this spring, the components will provide developers with a variety of services, including log-in authentication and client-server

See AppWare, Page 25

Verity offers smart searching

By James Staten

Intranet administrators will soon be able to provide users with intelligent search tools, thanks to a Mac version of Verity Inc.'s topicCD-Web Publisher.

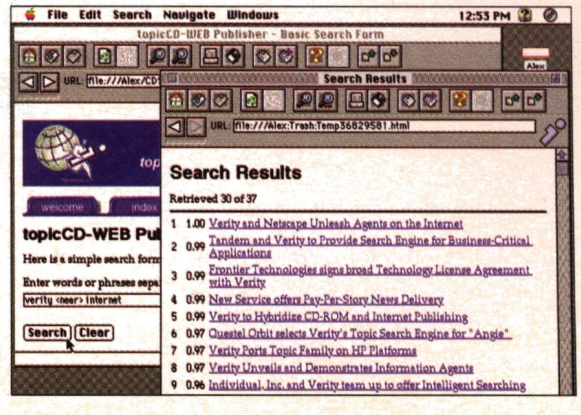
Due this month for $9,995, topicCD-Web Publisher 1.2 is an indexing engine and client-based search tool that lets users perform complex searches through a Web browser. The program supports the usual English and Boolean operators as well as Verity's own search language. The Verity syntax lets users search for synonyms, homonyms and conjugations of a search term. Users can also look for specific phrases, sentences and paragraphs; the occurrence of two words found in proximity to each other; and terms only in particular parts of a document, such as HTML headers.

Version 1.2 will index HTML and text documents stored on a CD-ROM or a local server that is accessible via file sharing. The client tool, a helper application, works with Spyglass Inc.'s Enhanced Mosaic 2.11 Web browser.

An update, due in May, will add support for Microsoft Word, Adobe FrameMaker and Portable Document Format documents. It will also let users access Internet servers with indexes created by Verity's $7,995 Topic Internet Search engine.

A new version of the client, also due in May, will support Netscape Navigator and Microsoft Corp.'s Internet Explorer.

Verity Inc. of Mountain View, Calif., can be reached at (415) 960-7600 or (800) 935-6246; fax (415) 960-7698; http://www.verity.com.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Verity's topicCD-Web Publisher lets Web clients search HTML and CD-ROM libraries using operators such as proximity and Boolean.

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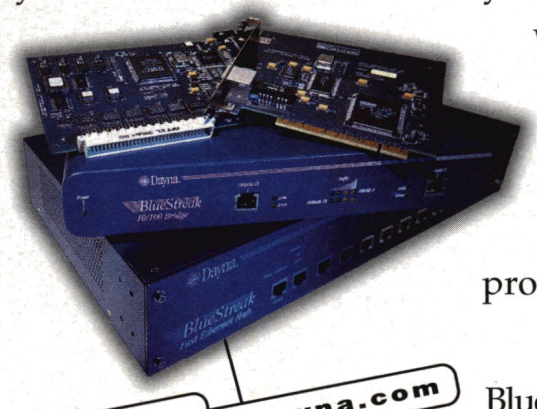

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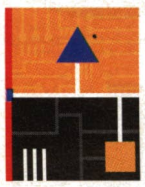
NETWORK TRAFFIC



- **Sonic supports Open Transport**
- **Dayna to add two BlueStreaks**

Sonic Systems Inc. of Sunnyvale, Calif., updated its family of software bridges to support Open Transport. The software runs on a Mac, allowing it to act as a bridge between connected 10- and 100-Mbps Ethernet and LocalTalk networks. ... **Dayna Communications Inc.** of Salt Lake City said it plans to add two bridges to its BlueStreak family of Fast Ethernet products this week. The first is a two-port device that bridges 10- and 100-Mbps Ethernet networks; the second is a 100BASE T bridge with ports for joining two 100-Mbps Ethernet segments. The dual-speed bridge has a street price of $950, and the 100-Mbps device costs $1,250. ... **Alantec Corp.** said it will ship four modules for its PowerHub 6000 and 7000 switching chassis this spring. The Fast Ethernet modules will come with six to 24 100-Mbps connections and start at $5,950. Alantec is based in San Jose, Calif. ... **Hewlett-Packard Co.** of Palo Alto, Calif., said it plans to continue its steady release of 100VG-AnyLAN devices in May when it ships two new switches. Its $3,399 AdvanceStack Switch 200 will come with 16 10BASE T ports and two 100VG ports, while the $5,499 AdvanceStack Switch 2000 six-slot chassis will accept four-port 10BASE T modules and two-port 100VG modules. HP said it will offer 10 more 100VG devices this summer, including hubs and transceivers as well as modules for bridging 100VG and Ethernet networks. ... **Digital Equipment Corp.** of Maynard, Mass., is now shipping a nine-slot version of its DECswitch 400. Users can add Asynchronous Transfer Mode and Ethernet modules to the $6,850 switch, which joins the company's five-slot model. □

Carnation takes on emulation

By Joanna Pearlstein

Rounding out its line of communications tools, Carnation Software Inc. released MacWise, a $95 terminal emulation and data transfer program.

The product emulates ADDS Viewpoint, Wyse 50 and 60, VT100 and Prism terminals. MacWise can connect to machines over Ethernet, AppleTalk and TCP/IP as well as other Macintosh Communications Toolbox-compatible tools.

By supporting multiple sessions simultaneously, MacWise can either connect to several different hosts at the same time or run concurrent multiple sessions with one host.

Carnation said that in all its emulation modes, users can select menu items with a mouse, design connection scripts and copy on-screen text into the Mac Clipboard as an object or as editable text. It includes a phone list and can dial numbers automatically.

Carnation Software Inc. of Carnation, Wash., can be reached at (206) 333-4288; fax (206) 333-4902; richlove@netcom.com; http://www.carnation-software.com/~carn. □

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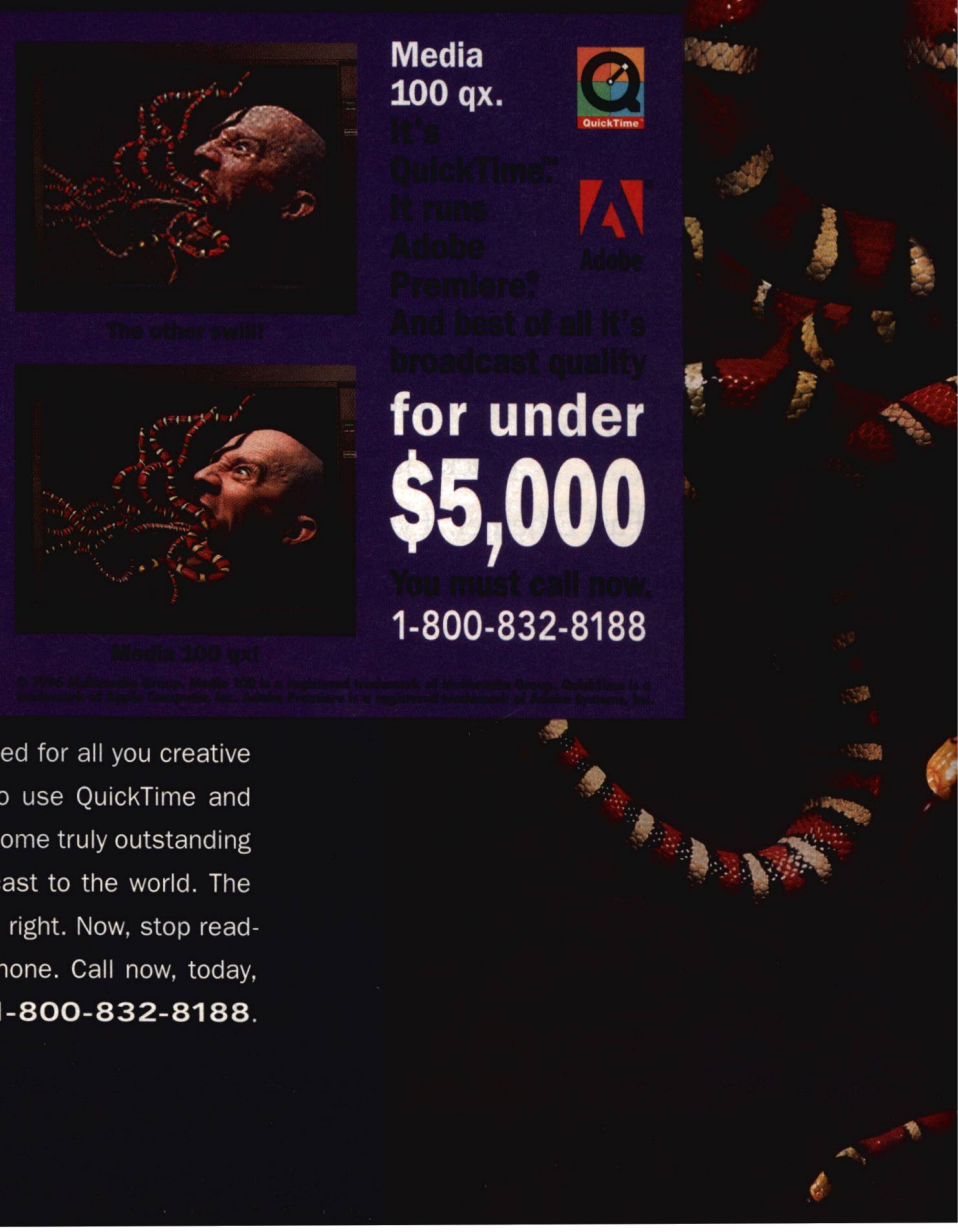

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AppWare

From Page 22

capabilities for NetWare networks.

Firmage said the company is adding several new capabilities to the visual programming environment, including Internet and Newton development tools.

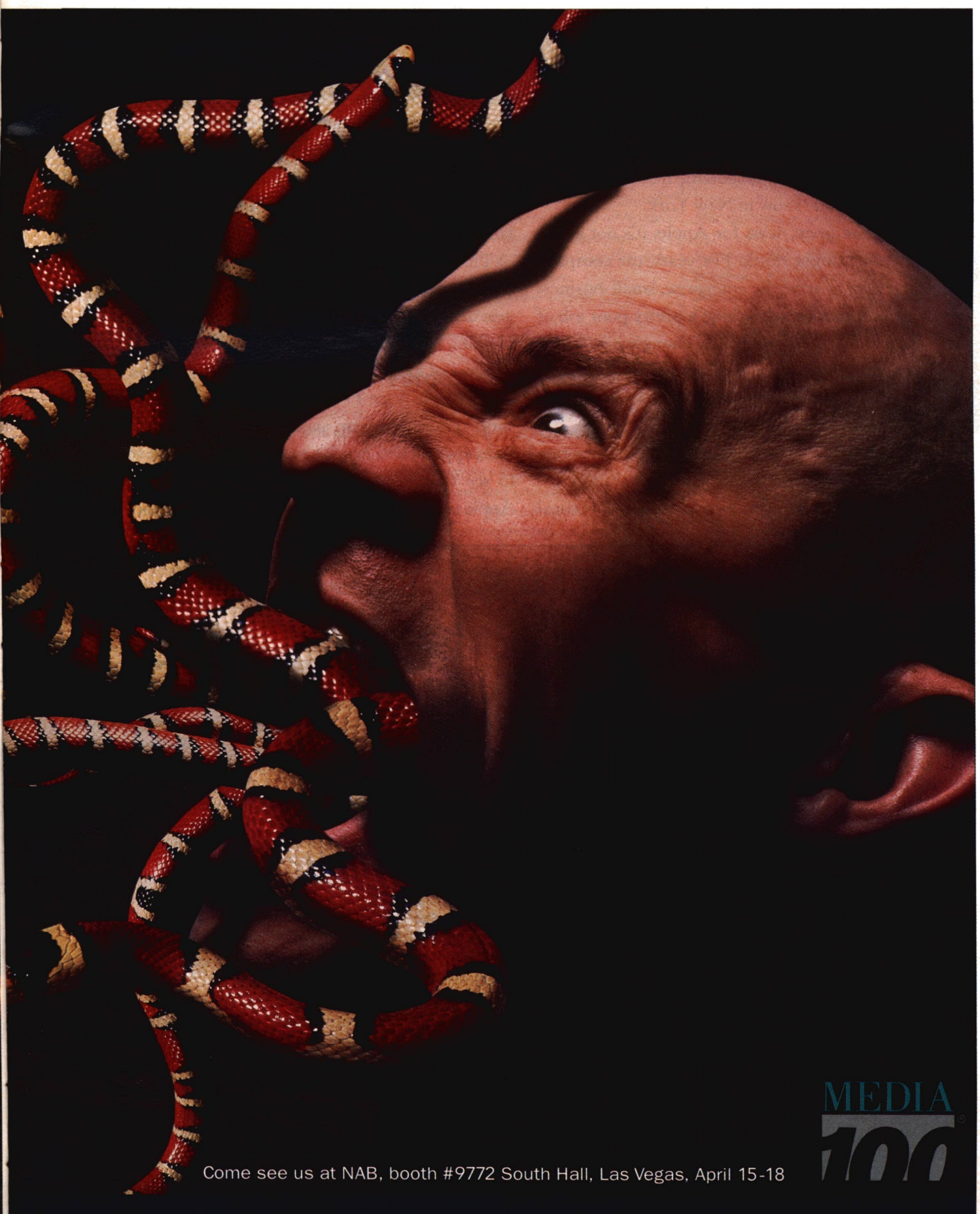
Network Multimedia intends to release a suite of Internet components for AppWare this spring that will provide developers with TCP/IP, security and database-access capabilities over the Web.

By the end of summer, the Macintosh version will gain OpenDoc capabilities and be able to create OpenDoc parts, Firmage said. Further down the road, AppWare will become a container. Firmage said the Windows version will use Microsoft Corp.'s OLE.

A Power Mac version of AppWare is expected soon.

"I'm pleased to see [Network Multimedia] can now plan around their own strategy instead of Novell's," said Eric Weidl, vice president of Digital Prairie Inc., a software developer in Naperville, Ill., and president of the AppWare Developers Association. "They can make the product what it has had the potential to be all these years."

Network Multimedia Inc. of Salt Lake City is at (801) 261-8232; fax (801) 261-9668; support@networkmultimedia.com. □



ActiveX

From Page 22

will be to make sure ActiveX interoperates with Xtras, Macromedia's new plug-in architecture for Director, and other products, Meyerowitz said.

Like OpenDoc parts or Netscape Navigator plug-ins, ActiveX Controls will add functions to compatible applications. When used in a browser, ActiveX Controls will be automatically downloaded over the Internet when needed, much like Java applets.

In a recent report on Microsoft's Internet strategy, Gartner Group Inc. of Stamford, Conn., said the company is using ActiveX to leverage its strength in operating systems and productivity applications to make OLE an infrastructure layer for the Internet. However, the study predicted that ActiveX and the other Microsoft Internet technologies would not make a major impact on the market until 1998.

"ActiveX is old wine in a new bottle," said Mike West, vice president of application development and management strategies at Gartner Group. West said he believes the technologies will be used initially on internal networks at companies that are heavy users of Microsoft's current products.

West added that he doubts Microsoft's commitment to cross-platform solutions. "My feeling is that they don't really want to bring their technologies to the Mac or Unix," he said. "They don't want people using these other platforms."

ActiveX could pose a challenge to OpenDoc, which is preparing to enter the Windows market. But Component Integration Labs Inc. of Sunnyvale, Calif., and other pundits aren't worried. Component Glue, due this summer on the Mac, will allow OpenDoc to interoperate with ActiveX Controls since ActiveX will work with Microsoft's Common Object Model.

However, according to published reports, Microsoft may implement Macintosh ActiveX in a runtime model for Web objects only, rather than as a systemwide OS extension. Microsoft was unavailable for comment on its Mac implementation plans. □

Saber LAN

From Page 22

forms have far outpaced those for the Mac, the company said.

"We want to support the Mac on the client side," Mustacchio said. "We just haven't seen an abundance of network administrators administering from a Mac."

Originally known to Mac users as GraceLAN network-management software from Austin, Texas-based Technology Works Inc., the product was sold to Saber Software Corp. in 1994; Saber was acquired by McAfee last summer.

McAfee will offer current customers refunds or product swaps to the company's other Mac utilities on a case-by-case basis; it will provide technical support for Saber LAN 2.0 for the Mac until April 1998.

McAfee Associates Inc. of Santa Clara, Calif., can be reached at (408) 988-3832; fax (408) 970-9727; fax-back (408) 988-3034; http://www.mcafee.com. □

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BPA INTERNATIONAL

Keeping pace with the enterprise

By most estimates, the corporate computer market is soft. Regardless of platform, sales of hardware and software products to big business are not growing at the same rate as in the small-business and consumer arenas. In the Mac market, this has contributed to the demise of organizations such as MacIS, the corporate-oriented Worldwide Publishing Consortium and the recently canceled Corporate Mac trade show in New York.

Although not great news for Apple, it's not as depressing at one might think. For years, the company has been trying to serve the enterprise, small-business and consumer markets. It's done a pretty poor job of marketing to all three groups. By changing its focus, Apple can grab mind share and momentum from this market shift. There are subtle indications that Apple's management understands this.

Apple has moved away from going in the corporate front door as a "one size fits all," blanket solution. Instead, the company is now focusing on the vertical needs of departments and workgroups inside corporations. By selling a solution instead of a platform, Apple achieves the same result it would get when selling to a special-market small business.

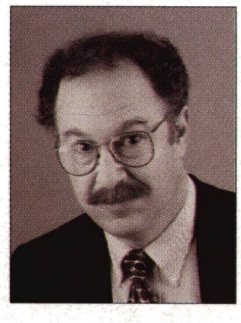
In the process Apple continues to drive home the point that the Mac has advantages the Wintel platform still cannot match. In the crucial areas of publishing, multimedia and digital video, Apple still leads the way not only in price/performance, but in ease of use, installation and integration.

Third-party vendors also benefit from selling into these specialized high-growth segments. It not only gets them into the small-business markets they're selling into, but into more enterprises as well.

Some of today's changes inside Apple are the legacy of ex-Apple Vice President Dan Eilers, who, in his short tenure last year, passionately advocated a solutions approach to Apple's marketing message. It's good to see that, regardless of the current management, Apple is embracing the needs of the market today. □

THE SECOND DECADE HENRY NORR

Net news, floppy floods and Web-browser battles



This week, a March miscellany of issues old and new:

First, the stale "Apple and the Internet" Web page I cited recently (see 03.11.96, Page 20) disappeared within minutes, it seems, after my column appeared on-line. Meanwhile, a new Apple page at http://cybertech.apple.com now offers information about the company's Internet-related products and projects. There's not a lot there yet — certainly nothing even approximating a coherent statement of how Apple plans to respond to the challenges and opportunities the Internet presents — but it does look nice.

Browser wars

Component software is finally reaching the mainstream, and it's the rise of the Web that's propelling the process. For now the action is mainly in Netscape Navigator plug-ins, but Microsoft Corp. is making a strong case for its ActiveX technology. The latter appears to be not much more than a repackaging of the existing OLE Controls format, but that's a shrewd move on Microsoft's part, because developers can leverage tools and expertise they already have.

All of this leaves Apple's Cyberdog playing pretty much by itself. It's easy to understand why, and it doesn't have much to do with the technical merits: Cyberdog is still in beta on a single platform, and OpenDoc, which it depends on, isn't even part of the Mac OS yet. Meanwhile Netscape Communications Corp., which wasn't even established until nearly a year after OpenDoc was announced, claims an installed base of almost 25 million for its browser — a figure that puts it ahead of both Windows 95 and Microsoft Office.

One bright spot in the picture for Mac users: Cross-platform support is emerging as a major issue in the brewing battle of the browser behemoths. Microsoft's Internet Explorer for the Mac looks surprisingly good. If nothing else, it might help keep Netscape honest.

Stemming the floppy flood

With America Online software soon to be distributed with Windows 95 and many Mac models, I'm hoping AOL will stop deluging us all with unwanted floppies. Unfortunately, its success has apparently inspired competitors — notably CompuServe and EarthLink Network Inc. — to try the same marketing tactic. If you have ideas about how we can put the brakes on this wasteful and annoying practice, please write. I'll pass along the best suggestions in a future column.

You're either on the bus ...

Last week MacWEEK reported that Apple will adopt the Universal Serial Bus (USB). Take it from me — this is more than speculation. One bit of evidence (not the only one): One winner of a lunch-time raffle at last month's USB Implementers Forum was an Apple engineer.

Maybe we'll end up with both USB and FireWire, in place of the ADB and GeoPort. That's what I recommended last year (see 05.22.95, Page 28); it also happens to be what Bill Gates is pushing for Wintel. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at henry_norr@macweek.com.

LETTERS

Navigator's blind spot

Your editorial regarding Apple's need to lend, if necessary, the critical engineering resources to expedite the development of Mac-based Netscape Navigator plug-ins was on the mark (03.11.96, Page 20), but perhaps a more telling commentary deserves to be made about Jim Clark's comments regarding it being a matter of economics to have to put the market leader first. While on paper this represents sound logic, for Netscape Communications Corp. this mentality represents an Achilles' heel that Microsoft Corp. is already moving to exploit (via its Explorer browser).

Arguably, the greatest promise of the Web revolution is the promise of true platform independence. If delivered, this paradigm would wrest away much of the competitive advantage held by Microsoft's dominance in the Windows arena and render a level playing field for application developers.

In the near term, plug-ins are going to proliferate more quickly than Java applications, meaning that during the next six months or so the Web will tilt toward the Windows axis, which couldn't be better news for Microsoft. Do you think it's a coincidence that, unlike Microsoft's Mac desktop applications, which have typically felt like crude ports of the Windows versions, the Explorer browser looks, feels and acts like a Mac application and maintains most of the functionality of the Windows version?

Microsoft has discovered Netscape's religion and is readying to co-opt it, once again leveraging its installed base. The browser battles have just begun: Microsoft has an ace up its sleeve in a new API known as Sweeper, and Netscape is playing right into its hands.

Wake up, Jim Clark!

Mark S. Sigal
Regional sales manager
Tribe Computer Works Inc.
Alameda, Calif.

Why pay for bugs?

I disagree with your editorial (02.26.96, Page 22). I think real releases such as System 7, 7.5 and Copland are reasonable to charge for. Maintenance releases, however, can cost Apple more than $20 or $30 per user if they aren't widely adopted. As you say, most Mac-based businesses will pay. However, most businesses that are phasing out Macs (or use them little, like my company) as well as most home users won't pay.

The end result? The people who are the most essential for Apple to impress with the reliability and features of the Mac won't get the updates, and their systems will remain old and buggy.

What about the new features in releases such as 7.5.3? These should also go out to customers free. It's hard enough to ask developers to write for these new technologies already, but if the majority of users don't adopt new updates because of their costs, then these technologies will be stillborn because far fewer programs will be written for them.

The experience of 7.5.2 was bad enough: a significantly different version of Apple's OS that ran only on some Macs. Now 7.5.3 promises to bring us all back on the same level, if the updates are free.

Sam Agnew, customer support
Epson UK Ltd.
Hertfordshire, England

Forgetting the basics

I agree with Don Crabb's column "We've seen the problem at Apple, and it is us" (03.04.96, Page 19). I am frustrated with what the news media writes about Apple's management and frustrated how Apple's management has managed. The "over-analyzed, overcriticized and overblown" scrutiny by everyone does not allow a company to correct itself. People who criticize seem to think Apple is still two guys in a garage designing a new computer system and think they can tell Apple how to run the company.

The majority of users on our campus use Intel-standard machines, but they require constant help because the machines won't work (the OS is corrupted, video or sound cards have conflicts, people change things and fail to take responsibility for their actions). I don't see nearly as many problem calls for Macs as I do for Intel-based machines. In fact, I am involved with a project to teach multimedia to faculty. Nine of them use Intel machines and five have Macs. Half of the Intel machines have problems. It's an endless nightmare.

People buy Macs because they *work*. They don't need constant tinkering. They don't have constant conflicts. You can plug any SCSI device into them and they work. People have forgotten the basics, and Apple's marketing people have forgotten the basics.

John Fox
Radford University
Radford, Va.

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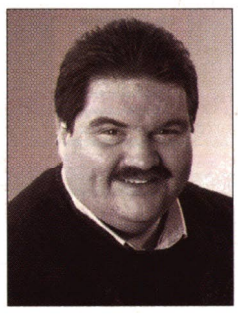
THE MAC MANAGER DON CRABB

Mac platform becoming the also-ran for vendors

Apple's biggest problem is the timely availability of Mac OS software, and the problem isn't getting better as users and vendors alike put their time and resources into the Internet.

Despite the Mac's strong showing as a Web-server platform, it just isn't snagging its share of mainstream Internet tools, as well as Web browsers, utilities, plug-ins and the other stuff that makes our day on the Internet. Sure, there are a number of clever Mac third-party tools (such as CE Software Inc.'s WebArranger, Nisus Software Inc.'s MailKeeper, ForeFront Group Inc.'s DragNet and Aladdin Systems Inc.'s CyberFinder), but the volume and timeliness are missing.



AT&T and the Mac

A case in point was AT&T Corp.'s recent announcement of its new Internet-access service (hosted on its AT&T Interchange system). Great, I thought, AT&T will really help energize the Internet for newcomers, always a strong Mac market.

Sadly, that's not going to happen. AT&T's new Internet-access software is now only for Windows 95 customers, a far smaller presence on-line than Mac users. The Mac release is delayed until summer or maybe fall — maybe never. AT&T claims it can't even service the 200,000 Windows 95 customers who demanded the software, much less port it to the Mac.

I don't think that's the reason. If you scratch beneath the surface you'll get a few AT&Ters to whisper the truth: "We didn't think it was worth the development cost to get the Mac version out [simultaneously] with the Windows 95 release."

Not worth the development cost? Twenty-two million installed Macs aren't worth the effort? Apparently not, but I believe it's because AT&T's decision is based on false perceptions, not facts.

Educating vendors

AT&T is not stupid, but neither is it fully clued in. Mac customers are used to waiting. We wait for Microsoft Corp.'s applications, which often come long after their Windows cousins, and often with poor performance or feature sets. But we still buy the stuff.

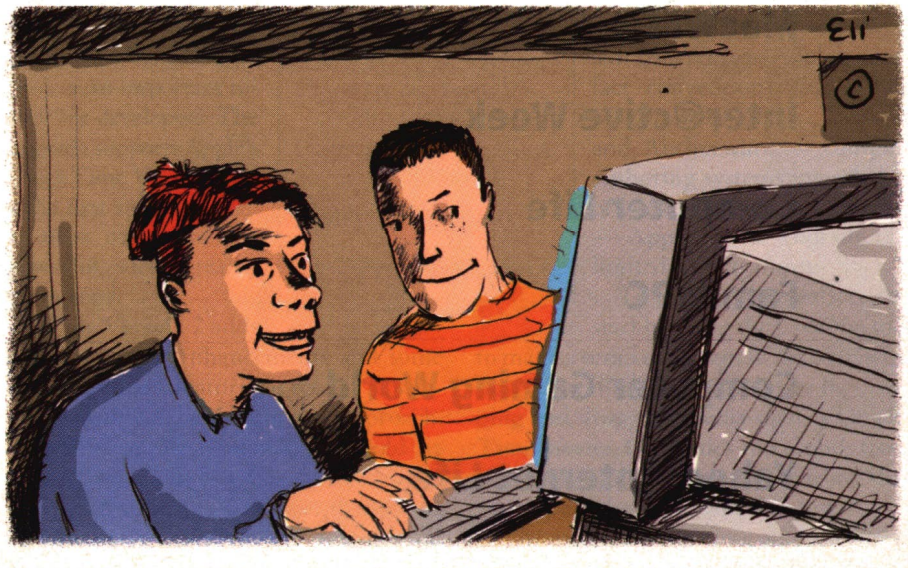
We wait for Netscape Communications Corp. to release the Navigator Gold browser and editor. We're on hold for every Netscape partner to release plug-ins and helper applications. But we still buy the stuff.

We even wait for Apple to update its Internet Connection Kit, months after it had the good sense to make it a product. But we still buy the stuff.

So, we'll certainly wait a few months for AT&T. If software vendors, network-access providers and on-line services know that we'll wait, it's logical for them to service the Windows 95 market first.

It's time for Mac buyers to apprise them of the error of their ways by withholding support for these products. And it's time for Gilbert Amelio, Heidi Roizen, Jim Buckley, David Nagel and the rest of the Apple executive body to take these vendors to the woodshed and, well, educate them. After they're through wielding the stick, they should tie a carrot to it and offer to help any way they can — co-marketing, special hardware bundles, joint development efforts — to make sure that the Mac OS platform is not an Internet software or services also-ran. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.



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Adobe SiteMill a good remedy for tangled Web sites

By Dave Taylor

Web package does a good job of managing and validating Web-site links.

Web sites for even a small business can be overwhelming, with dozens of pages and images and hundreds of cross-links between documents and to other resources on the Internet. Adobe SiteMill 1.0 is a well-integrated package with a simple but very helpful goal: to let you easily validate, modify and maintain the links within a Web site.

We found the $595 package — which includes a completely integrated version of PageMill, Adobe's easy-to-use WYSIWYG Web-page editor — to be robust with very good, but limited, capabilities.

If you've worked with any multiple-file Web site, you already know the nightmares, such as trying to maintain links when moving files around, checking to see how many of your HTML files reference a particular graphic, or trying to fix a changed URL (uniform resource locator) referenced in a number of pages.

To the rescue

SiteMill solves all of these maintenance problems and more. You simply drag the folder that contains all your HTML and graphics files onto the SiteMill icon. SiteMill then scans and analyzes all the HTML files for cross-dependencies and opens Error, External References and Site windows, which offer a unique environment for managing and maintaining the set of pages.

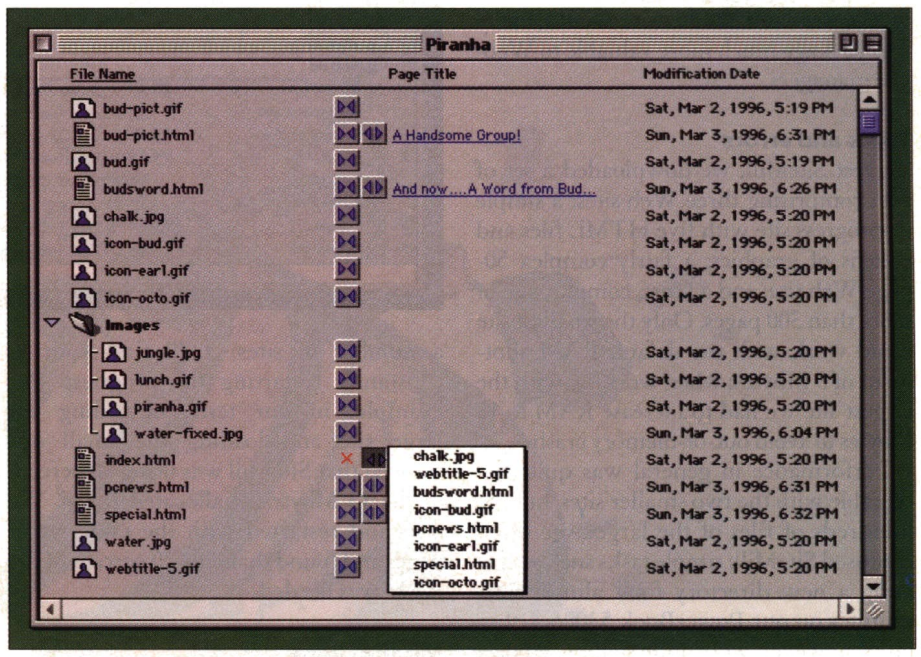
The Error window shows a list of dangling links. Each incorrect link reference includes the type of link, the name of the file specified, a pop-up button for a quick peek at the list of HTML files that include the erroneous link, and the full name and path of the missing file. If the links point to another file in your folder that is missing — whether it's an HTML, CGI (Common Gateway Interface) or other file type — it'll be shown in this window. To fix the error, you can either open the files that reference the link and edit them or simply drag and drop the correct file entry from the Site window. In fact, drag-and-drop is exploited intelligently throughout SiteMill; many tasks can be accomplished without your hand leaving the mouse.

The Site window is where you'll spend the vast majority of your time with the program. It offers a concise way to view all the files and folders that comprise your Web site. Each item in the site has two pop-up lists: one with all the files that point to it and another with all the files or URLs to which it points. If the file is a Web page with a document title, the title and time of last modification are displayed.

You can also use the Site window to create new folders, rename files and move files into (or out of) folders. When any of the pages require changing, SiteMill dutifully pops up a dialog box indicating how many files are affected by the change in file name or location, and upon your OK, the program automatically updates the links in all relevant documents — a very cool feature.

The only real disappointment is the

See SiteMill, next page



The Site view in Adobe PageMill offers a useful view of an entire Web site. From here you can see all the graphics and HTML files — the latter with titles displayed if present — and can see how they relate to each other. This pop-up shows what graphics and HTML files are referenced in index.html.

score card

SiteMill 1.0

Adobe Systems Inc.
List price: $595*
Overall value ◆◆◆

Mac-based Web site managers will find SiteMill a useful addition to their tool kit, though it addresses only one facet of the management process. To manage links and files, it offers a simple interface and the fastest possible way to reorganize the files and graphics that comprise your Web site. Testing revealed it to be mostly fast, with some performance and memory usage penalties for working with large Web sites of more than a few hundred files. SiteMill does its basic tasks well, but the program would be stronger with additional capabilities, such as a way to validate external links and to synchronize versions of sites between servers and local disks. The program also includes a completely integrated version of PageMill, Adobe's WYSIWYG Web page editor.

Performance ◆◆◆
Features ◆◆◆
Ease of use ◆◆◆◆◆
Documentation/support ◆◆◆◆

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Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

Apple Media Tool makes authoring easy, flexible

By Sean Wagstaff

Upgrade adds important basic features while retaining its simple, visual approach.

Apple Media Tool 2.0, the new version of Apple's authoring tool for creating multimedia presentations, is an important release for developers. The upgrade supports Apple's QuickTime VR, making it the first authoring tool to allow control of this powerful virtual-reality technology.

While Version 2 adds many interface enhancements and some important basic features, it retains its simple, visually oriented authoring approach. The $495 application, which is sold by Claris Corp., also lets developers create a cross-platform runtime player that works on Macintosh as well as Windows 95 and Windows 3.1 systems.

Fill in the blanks

Apple Media Tool is a highly visual environment with excellent adherence to Apple's interface conventions. But unlike Macromedia Inc.'s Director and Authorware — complex authoring systems intended to offer every imaginable function — Apple Media Tool offers a limited set of features.

To build a presentation, you start by using the Creation tool to make a series of screens in the Map window. You fill these blank boxes by dragging and dropping media such as QuickTime movies, PICT files and sounds from your desktop, or from media icons that you've added to the Media window.

The media that you drag onto a screen is

See Media Tool, Page 33

SiteMill

From previous page

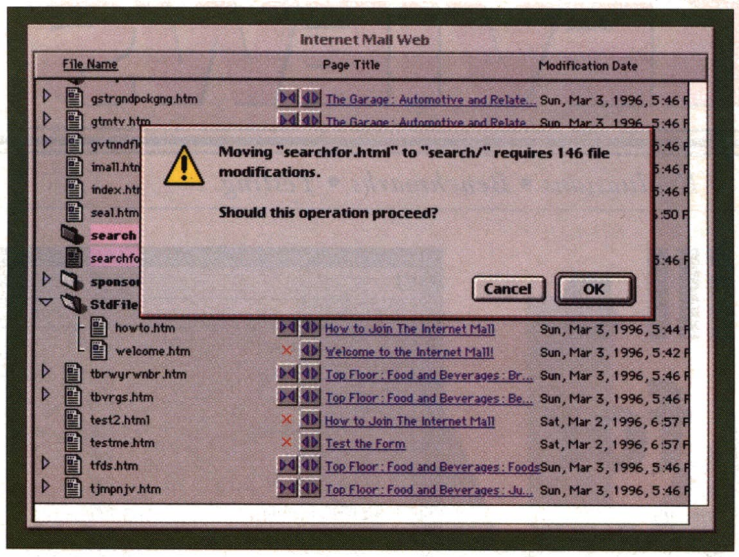
External References window, which offers a scrolling list of all external URL references on the site. You can redirect these pointers by modifying the values shown, but you can't validate their accuracy. This is a crucial missing feature. The capability to check if links still exist would make this package much more valuable to Web-site managers.

Trials and errors

To test SiteMill, we downloaded a set of files comprising three Web sites: a simple in-progress site with five HTML files and dozens of graphics; a fairly complex 50-page Web site; and a large, complex site of more than 300 pages. Only the smallest site could work with the default RAM allotment of 3 Mbytes; when working with the largest site we had to increase RAM to 13 Mbytes to avoid out-of-memory crashes.

Performance in general was quite acceptable with the two smaller sites, but the hundreds of files of the larger site often confused SiteMill; simple tasks such as creating a new directory took almost four minutes on our PowerBook 5300c. Other tasks, however, were quite snappy. Updating all the links in our files when we moved a graphic was accomplished within a minute or so.

SiteMill doesn't release RAM when a project is unloaded, so if you're managing a number of sites you'll find yourself constantly restarting the program. For example, in our tests, unloading the large site and loading the small one showed that SiteMill was using 70 percent of the 13 Mbytes of allocated RAM. We quit and restarted with the same set of pages and found that only 20 percent of the RAM was needed.



SiteMill can automatically update all HTML file references whenever another file or graphic is moved or renamed. This feature offers the greatest help for Webmasters.

Missing links

We were impressed with SiteMill's basic capabilities, but, as with any 1.0 release, there's lots of room for improvement.

Our wish list for the next version includes a synchronization capability, in which the version of the Web site on your disk can be compared automatically to the file set on the server; a Performance box within the Web editor that would show the total size of all elements on the specific Web page and how long it might take to download with different speed connections; a status and summary view that lists the number of HTML files, graphics and links; an external link validator; and some sort of HTML style- and tag-checking utility.

Documentation and support

SiteMill includes one of the best manuals we've seen in a long time. It's concise, offers interesting and relevant examples, and boasts one of the best off-line introductions to Web-page design considerations. We were disappointed, however, that the Adobe Web site doesn't seem to have been developed in SiteMill, and, more importantly, Adobe doesn't have an on-line home page for SiteMill with pointers to useful on-line resources. Adobe's Web site is for prospective buyers, not existing customers.

The SiteMill-produced image-tag attribute "naturalsizeflag" caught our eye in the output HTML code because it's not documented. We asked about it in Adobe's America Online support center and also via phone support. The former produced an answer within two hours; the latter we gave up on after twice being on hold for more than 30 minutes.

Conclusions

Adobe SiteMill does a small number of tasks and does them very well. Adding a half-dozen additional capabilities, such as external URL validation, would dramatically increase its value to Web-site managers. The program is, nevertheless, a great leap forward in Web-site administration tools. Its capability to simplify the day-to-day chores involved with managing a Web site make it a good addition to any Webmaster's toolbox.

Adobe Systems Inc. of Mountain View, Calif., can be reached at (415) 961-4400; fax (415) 961-3769; http://www.adobe.com. □

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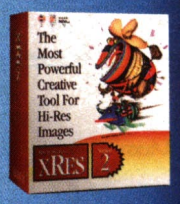

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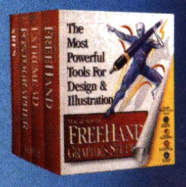

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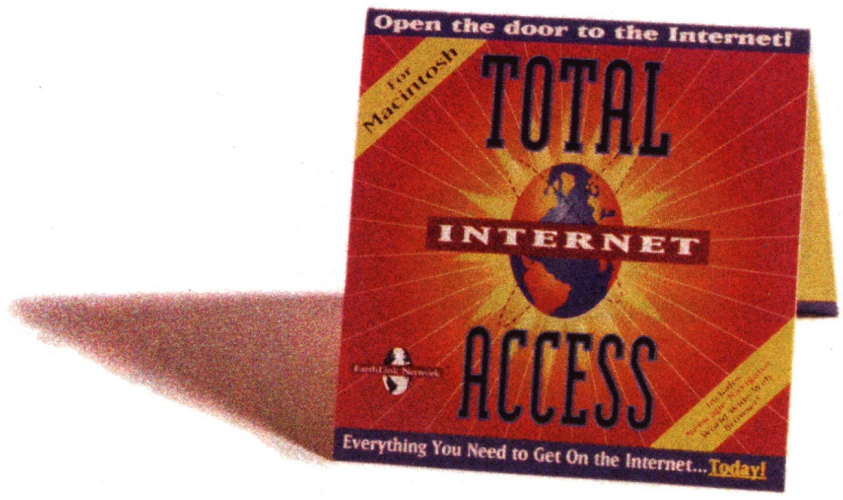

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Media Tool

From Page 29

added automatically to the Objects list. In turn, you can drag Events, such as Mouse Up or Mouse Enter, from the Event pop-up onto any Object. You can then assign Actions such as Commands, Links or Effects to each Event by dragging them from the Action list.

You can define many different Events for a given on-screen Object, and each Event can invoke a series of commands. This makes it easy to create a complex presentation in very little time.

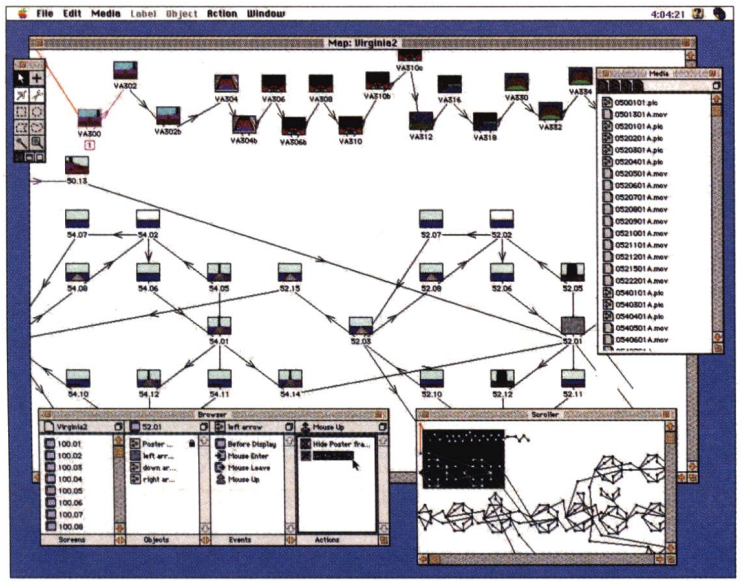
The program handles a variety of media types, but for cross-platform titles you'll need to use the included Converter application to flatten QuickTime movies and convert snd and AIFF (Audio Interchange File Format) files to .WAV format. This utility provides very good feedback in the form of a log of conversions and problem files. Interestingly, Apple Media Tool prefers PICT to BMP files for cross-platform images.

QuickTime VR

Support for QuickTime VR may be Apple Media Tool's hallmark feature, since no other authoring tool currently allows you to work with these virtual-reality movies as if they were any other media.

Apple Media Tool supports Scene movie hot spots with a separate set of event handlers. You can assign Actions that pan to a given location in a QuickTime VR movie or that respond to QuickTime VR hot-spot events. You'll need Apple's QuickTime VR development kit, however, to create the QuickTime VR movies and their hot spots. This $495 kit requires a high level of knowledge and a significant amount of programming.

Apple Media Tool has excellent support for QuickTime VR Object movies. We were able to easily create a series of scenes containing QuickTime VR Object movies that users can drag around on screen. Object movies are much easier to create than scene movies and do not require the full QuickTime VR kit, just Apple's Navigable Movie Player.



Apple Media Tool 2 uses a map to create and link screens in a presentation. This works much better for small projects than large ones, as this confusing map exhibits.

Apple Media Tool 2 has much-improved support for text. You can import a text document in RTF, which can be placed into text windows complete with scroll bars and hot-linked text. Also, you can now assign custom palettes to a project or individual screens.

Another major improvement is the new cross-platform runtime player. We had no trouble creating a single ISO 9660 CD-ROM with separate players for the Mac and both Microsoft operating systems, and which shared media from a single folder containing more than 800 media elements. The runtime player can also support monitors of varying bit depths.

> The most unique feature of this upgrade is its very good support for QuickTime VR.

Spider web

You create Links between screens by dragging an arrow from one screen on the Map to the next. To any Event, such as Mouse Up, you can assign a Go To link and drag the destination screen's icon onto the Go To icon. This is great for very small projects but a pain for large ones: We created a presentation with more than 200 screens and had difficulty making sense of the resulting spider web of arrows.

Also, Apple Media Tool's reliance on drag-and-drop goes too far here. We'd like to be able to click on a Go To link and select the appropriate destination from a pop-up list of Objects the current screen is already linked to. Instead, you have to drag the destination screen from the Screens list — which can be very long. If you click on the screen in the list instead of dragging it, you immediately jump to that screen and have no easy way to find your way back to where you started.

It's very frustrating that there's no way to quickly search for dead links; instead, you have to tediously test every link in a finished title.

The big screen

Apple Media Tool has a major problem with projects containing more than 100 screens. The only way to merge two projects is via cut and paste — and Apple Media Tool crashes with out-of-memory errors if you try to copy more than about 24 screens. Apple badly needs to add the capability to link to other projects to facilitate users with bigger plans.

While the Event-Command sequence is very useful, it is conspicuously lacking in logical operations such as IF, THEN and ELSE, and in support for variables. These limitations are no problem for point-and-click presentations, but they make the program difficult to use for projects that require performance tracking or adapting to user input.

Director and Authorware are much better in these cases. However, a programmer armed with the Apple Media Tool Programming Environment can also do the trick. This $995 tool kit, which is sold by Apple Developer Catalog and based on the Apple Media Language, enables a programmer to add new features to Apple Media Tool. For example, we found it a relatively simple task for a C++ programmer to write an addition that would allow users to assign custom cursors to events.

Conclusions

Apple Media Tool 2 is a good choice for education, presentation and prototype development, where users need to quickly put together a title using a simple visual interface. It also has great support for QuickTime VR. However, the program will test your patience when creating large projects and it proved unstable when working with more than 100 screens. We recommend it for smaller projects, in general. On the other hand, a programmer comfortable with the Apple Media Language will be able to quickly add to Apple Media Tool's features and remove many of its limitations.

Claris Corp. of Santa Clara, Calif., can be reached at (800) 950-5382; Apple Developer Catalog of Buffalo, N.Y., can be reached at (800) 282-2732. □

score card

Apple Media Tool 2.0

Apple
List price: $495*
Overall value ◆◆◆

Apple Media Tool 2.0 is a flexible multimedia authoring tool that uses a very simple visual interface based squarely on Apple interface guidelines. Users will easily be able to create the most common types of multimedia titles, although very complex or large projects are more than Apple Media Tool can swallow. The most unique feature of this upgrade is its very good support for QuickTime VR; the application also scores high marks for cross-platform development. We recommend Apple Media Tool to those who need a simple but very flexible authoring tool.

Performance ◆◆◆
Features ◆◆◆
Ease of use ◆◆◆◆
Documentation/support ◆◆◆◆

** Upgrades from previous versions, $149. Apple Media Tool Programming Environment, $995. Apple Media Tool bundle, $1,195.*

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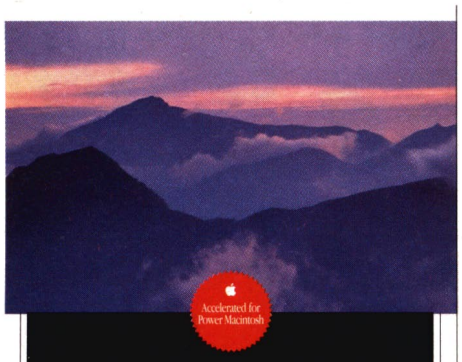

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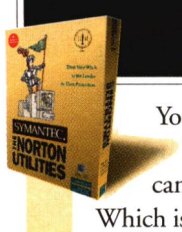

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reviews FORUM

Photoshop shootout

Excellent article (see 02.26.96, Page 39). I'm very impressed with how fairly you treated all three platforms — Mac OS, Windows NT and Solaris — without the anti-Unix bias that some other reviews have shown. I would like to take a moment to note a few things:

- The scrolling test can be considered rigged, since Adobe Photoshop uses a timing loop to limit the speed of scrolling with this method. The different platforms use a slightly different rate — the Power Mac's is provided by the operating system, whereas the other two platforms use a reasonable estimate. Unfortunately, this prevents any reasonable cross-platform scrolling test. I'm not sure why the Ultra's horizontal scrolling was so out of whack, but the chip doesn't have string-alignment requirements on data, and that may have been the problem.
- The dialog boxes under CDE (Common Desktop Environment) are *supposed* to float — they use the X Window System's Transient property — but CDE provides this annoying option to stop all the hard work we did to make the dialogs behave reasonably. In CDE's Style Manager, under the Window controls, is a button called Allow Primary Windows On Top. A user is forced to change this from the default to get the right floating-window behavior. Under Motif, the dialog boxes would have worked as expected.
- While there is no X Window way of providing LUT (look-up table) animation, and most display cards do not support it, Photoshop can support it under Unix. Only one display card, the RasterFlash, ever provided the functionality and Photoshop plug-in to implement it, however.

I'm also glad that it seems we have gotten the Unix version's interface smooth enough that it didn't merit a negative mention beyond CDE's dialog box problem. We worked very hard on the interface in Photoshop 3.0 to make it a natural part of the Motif environment, without losing the essential Photoshop qualities.

Scott Byer
Unix Photoshop project lead
Adobe Systems Inc.
Mountain View, Calif.

Where was SGI?

Why on earth did you test a Sun Microsystems Inc. machine and not one from Silicon Graphics Inc.? Sun isn't especially famous for the fastest graphics in Unix society. I also think you could have written a little bit more about the stability of the Windows NT and Unix OSes, since the Mac OS isn't so well known for its stability.

Otherwise, I think it was a very interesting test, since it highlighted the fact that now when the fastest Macs are so expensive one might consider buying a machine from a different environment instead. Keep up the good work.

Erik Finnman, Department of Informatics
University of Gothenburg, Sweden

MacWEEK replies:
Sun is promoting its Ultra1 line of workstations as direct competitors to Macs for running Photoshop; the matchup seemed a natural test to see which new machine came out on top. Our experience with Solaris did not reinforce the conventional wisdom that Unix is an inherently more stable environment than the Mac OS, but stability was not the point of the shootout, so we did not dwell on those observations. We're pretty sure that if we'd asked Sun to configure its machine in the most stable manner, as opposed to the fastest, that our experience would have been different.

Details, details

I read your review of Photoshop performance and had a few concerns:

- In spite of your claim that each system used the same amount of RAM for Photoshop, the Intergraph Corp. and Sun systems had substantially more physical RAM installed than the DayStar Digital Inc. clone. Even if the swap space is the same, having more RAM for the application and system software to run can dramatically affect performance.
- You were apparently willing to use beta software in this test, since a beta of Photoshop was used on the Sun machine. Why didn't you use System 7.5.3 on the Mac? The performance gains are dramatic, and this software was just weeks from release. Alternatively, why not use Connectix Corp.'s Speed Doubler? This utility will improve performance significantly and should be standard equipment on any Mac.
- You set up the DayStar machine yourself but relied on the vendors to set up the other computers. Given that any vendor worth its salt has a number of tricks for maximizing performance, you hobbled the DayStar machine.
- While I agree that interpretation of results is difficult at best, I have a rule of thumb: What really counts is how long a worker takes to complete a whole series of tests. If they both start at the same time, the important factor is when they finish. Therefore, I simply add the total elapsed times from your benchmarks and get:

DayStar	621 seconds
Intergraph	701 seconds
Sun	573 seconds

The Power Mac handily beats the Intergraph and falls only 10 percent behind the Sun, which costs twice as much and has twice the RAM. The use of System 7.5.3 or Speed Doubler is likely to at least correct that 10 percent deficiency.

Joseph M. Ragosta
Business manager, adsorbents
Graver Chemical Co. Inc.
Glasgow, Del.

MacWEEK replies:
In our experience, if you give Photoshop a memory allocation that is at least three times the size of the test image, adding more RAM doesn't help. Indeed, we ran all our tests on the same DayStar Genesis MP 600 equipped with 100 Mbytes of spare RAM, and Photoshop performance did not increase.

Regarding the beta software used, Adobe insisted that the beta Photoshop 3.0.1 for Unix didn't improve performance in any meaningful way — it just made the progress bars we used for benchmarking work right. System 7.5.3 is a different cup of tea. We did our tests two months before the release of System 7.5 Update 2.0, which includes dozens of substantial changes that might have helped or hurt Photoshop speed — it was too big an unknown. Speed Doubler probably would not have improved the performance of Photoshop. Our nonemulated tests were not disk-based, so none of the utility's components come into play.

Lastly, DayStar did configure its machine for the shootout, but MacWEEK changed some settings for better performance with the company's full agreement.

Where's Radius?

I'd like to see a rematch between Sun and DayStar. I think that you should have used the Radius Inc. ThunderColor graphics card that has accelerators for Photoshop. Please look into it and let me know if I'm wrong. The people here at work use Power Mac 9500s with the ATI card and one 8100/100 with the ThunderColor card. They say the 8100/100 is twice as fast.

Duc Nguyen,consultant
Navy Research and Development
Customer support group, Ogden, Calif.

MacWEEK replies:
Radius' ThunderColor card would not have helped the DayStar Genesis MP. According to DayStar, the architecture of Photoshop currently prevents DayStar's multiprocessing plug-in from sharing the work with a digital signal processor accelerator like the ThunderColor.

PowerBuilder powerful?

I was extremely disappointed with your review of Powersoft Corp.'s PowerBuilder for Macintosh (03.11.96, Page 23). My examination of the tool showed that its performance and reliability are unacceptable for any serious development efforts.

Also, I noticed that you failed to mention Oracle Power Objects as an alternative. Power Objects' development environment is more intuitive (using drag-and-drop) and uses a nonproprietary language (BASIC, as in Visual Basic).

Additionally, Power Objects was created from the ground up for cross-platform development, whereas PowerBuilder looks and feels like an application running in SoftWindows on the Mac.

Nate Ferguson
General manager, Softworks division
Management Science Associates Inc.
Pittsburgh

IN BRIEF

LogoMotion 2.0

Low-end 3-D application renders more-realistic images

Overall value ♦♦♦♦

With LogoMotion 1.0, Specular International Ltd. brought the creativity of Infini-D to entry-level users by offering a low-cost 3-D graphics and logo-animation package that was intuitive and fun. Version 2.0 continues in that vein by packing in more high-end features, while making LogoMotion even easier to use.

The $179 LogoMotion 2 sports a new drag-and-drop interface, two additional rendering modes, PICT and QuickTime surface mapping, more bevel options, and more than 500 ready-to-use StageHands.

Making a scene

Beginning and veteran users will quickly discover the joys of LogoMotion's icon-based drag-and-drop interface, which makes scene building a breeze.

Earlier versions of LogoMotion (see 02.21.94, Page 41), and even Infini-D, require accessing many pull-down menus. With Version 2, almost everything is up front and at your fingertips. For example, selecting the Surface menu opens a list of surfaces, a small preview window, four dynamic icons representing editable features (Diffuse, Highlight, Metalicity and Reflection) and an editable surface color icon.

LogoMotion provides a solid modeling and text-building environment, using several extruding and lathing edit functions found in Infini-D. You can link various lathed and extruded shapes to produce complex models, and stylize your objects with the expanded bevel features.

The application provides four view windows to help link and position your objects. However, while the Camera view can be resized, the other windows (Front, Top and Right view) cannot. Also, these additional windows are quite small, making complex model construction somewhat laborious.

LogoMotion can import DXF (Drawing Interchange File) and EPS files and subscribe to Adobe Illustrator and Macromedia FreeHand images for greater modeling control.

Picture perfect

Specular has augmented LogoMotion 2's shading levels, which range from Bounding Box to Gouraud, with two new options: Phong and Test shading. The Phong setting gives objects a cleaner, more realistic appearance. Phong shading also permits lights and objects to cast shadows, greatly enhancing the 3-D feel.

The program now supports PICT and QuickTime texture mapping; for some users this alone will make the program worth the price. Through the Surface menu, you can easily import any PICT or QuickTime file and apply it as a surface to any object. Also, LogoMotion lets you control how images are applied to or "wrapped" onto your object.

All the world's a StageHand! Specular's LogoMotion 2 lets you choose from hundreds of available props, backgrounds and texture maps to create your own scenes — or you can import your own.

This feature is critical since the surface editor is still rather basic. You can control many surface characteristics, but color is limited to only one shade per object, which makes surfaces often seem flat and artificial. Color-blending features, such as wood grain or tiling options, would have been a welcome addition.

While PICT and QuickTime texture mapping compensates for the limited surface editor, it will slow performance on more modest machines. Here, the new Test (Rough Phong) shading option will help. It lets you preview your work, replete with shadows and bit-mapped surfaces, at a fraction of the time required for true Phong shading.

Give them a big hand

What sets LogoMotion apart from other 3-D packages is its use of StageHands — ready-to-use animated props, cameras, lights and backgrounds — that can easily add flash to your creations. Need swirling stars or swooping camera shots? Just open the StageHand menu and select the type of StageHand you need. LogoMotion automatically gives you access to the hundreds of StageHands available directly from the CD-ROM.

You can also create your own StageHands. This is a great way to reuse models and logos from your own LogoMotion files as a drag-and-drop resource: Simply select Export to StageHands from the File pull-down menu. However, some forethought is necessary, as LogoMotion can convert only a single object or a linked group of objects into a StageHand.

Action!

LogoMotion uses the same powerful yet intuitive event-based animation sequencing system found in Infini-D. The program treats logos, models, camera and lights as independently movable objects. You simply move objects where you want them. Selecting Snapshot from the Animate pull-down menu records the action. LogoMotion automatically animates the movements between each Snapshot.

Animation features also include impressive morphing effects. Recording changes to an object's size and appearance is as simple as recording an object's movement. And easy does not mean cheesy: LogoMotion's morphing is amazingly smooth.

You can save your rendered scenes and movies as PICT, TIFF, PICS or QuickTime files, or as an alpha channel. Files can also be exported directly into Infini-D.

Conclusions

LogoMotion 2 is now more powerful and even more fun. Constructing scenes is a snap with the new interface and beefed-up StageHands. The addition of Phong shading, shadows, and PICT and QuickTime texture mapping makes rendered images more realistic. We'd like the program to have ray-tracing capabilities, and the surface editor needs improvement. Still, LogoMotion's modeling and sequencing features and ease of use make it a very good choice for budding 3-D users.

Upgrades from earlier versions, $39.39.

Specular International Ltd. of Amherst, Mass., can be reached at (413) 253-3100 or (800) 433-7732; fax (413) 253-0540; http://www.specular.com/. — *By Robert M. Repass*

FlightCheck 1.7.2

Smart preflight pre-press utility scans and delivers

Overall value ♦♦♦♦

Winging to the aid of pre-press professionals comes FlightCheck, an application that scans documents for potentially job-halting faults and offers ways to fix them. While the interface is a bit tricky and some judgments may be misleading, Markzware Software's $379 product is a wonderful value that will pay for itself in saved film and plates.

FlightCheck preflights documents created by most versions of QuarkXPress; Adobe PageMaker, Illustrator and Photoshop; and Macromedia FreeHand. At this point, however, it cannot preflight FreeHand native (non-EPS), PageMaker 6.0 or plain PostScript documents. These improvements are expected in a future version, according to Markzware.

Because FlightCheck works with documents' internal formats directly, it does not require that you have any of the applications mentioned above. For instance, it will check PageMaker 5 documents even if you do not own PageMaker. Tinkerers

See FlightCheck, next page

Accelerated for Power Macintosh
WHAT TO DO WHEN
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TIFFANY, BODONI
DISAGREES WITH GOUDY,
AND GILL AND
BASKERVILLE JUST CAN'T
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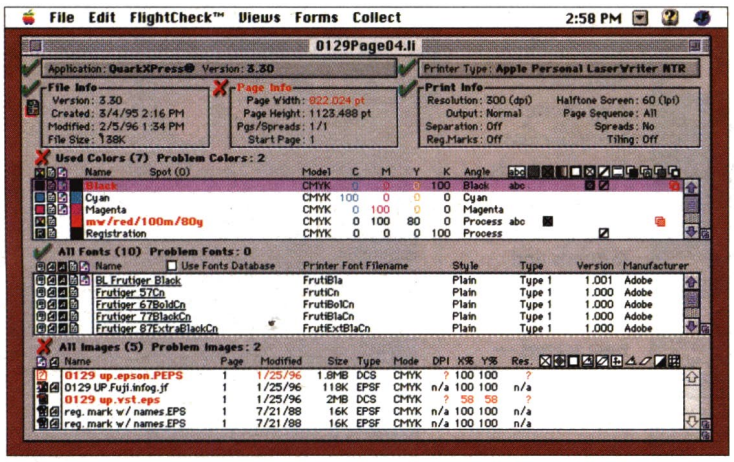
File Edit FlightCheck™ Views Forms Collect 2:58 PM
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Application: QuarkXPress® Version: 3.30
Printer Type: Apple Personal LaserWriter NTR
File Info
Version: 3.30
Created: 3/4/95 2:16 PM
Modified: 2/5/96 1:34 PM
File Size: 138K
Page Info
Page Width: 822.024 pt
Page Height: 1123.488 pt
Pgs/Spreads: 1/1
Start Page: 1
Print Info
Resolution: 300 (dpi)
Output: Normal
Separation: Off
Reg.Marks: Off
Halftone Screen: 60 (lpi)
Page Sequence: All
Spreads: No
Tiling: Off
Used Colors (7) Problem Colors: 2
Name Spot (0) Model C M Y K Angle
Black CMYK 0 0 0 100 Black abc
Cyan CMYK 100 0 0 0 Cyan
Magenta CMYK 0 100 0 0 Magenta
mw/red/100m/80y CMYK 0 100 80 0 Process abc
Registration CMYK 0 0 0 100 Process
All Fonts (10) Problem Fonts: 0
Use Fonts Database
Name Printer Font Filename Style Type Version Manufacturer
BL Frutiger Black FrutiBla Plain Type 1 1.001 Adobe
Frutiger 57Cn FrutiCn Plain Type 1 1.000 Adobe
Frutiger 67BoldCn FrutiBolCn Plain Type 1 1.000 Adobe
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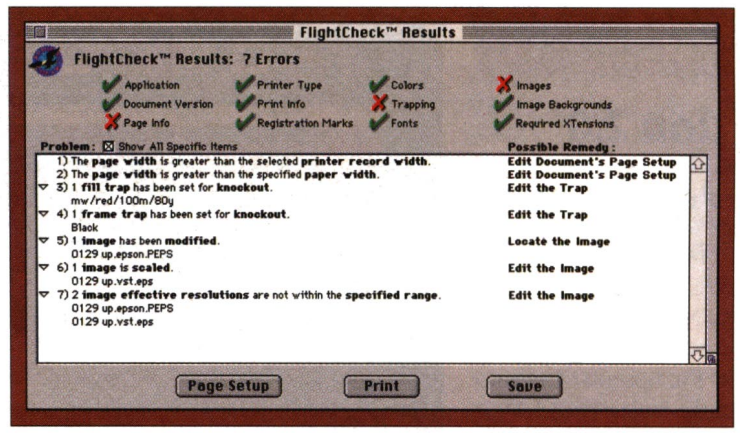
0129 up.vst.eps 1 1/25/96 2MB DCS CMYK ? 58 58 ?
reg. mark w/ names.EPS 1 7/21/88 16K EPSF CMYK n/a 100 100 n/a
reg. mark w/ names.EPS 1 7/21/88 16K EPSF CMYK n/a 100 100 n/a

At the heart of Markzware's FlightCheck lies this control window. Double-clicking on any item listed against a white background gives further information about the problem, including previews of any graphics affected.


FlightCheck™ Results
FlightCheck™ Results: 7 Errors
Application
Document Version
Page Info
Printer Type
Print Info
Registration Marks
Colors
Trapping
Fonts
Images
Image Backgrounds
Required XTensions
Problem: Show All Specific Items
Possible Remedy:
1) The page width is greater than the selected printer record width. Edit Document's Page Setup
2) The page width is greater than the specified paper width. Edit Document's Page Setup
3) 1 fill trap has been set for knockout. Edit the Trap
mw/red/100m/80y
4) 1 frame trap has been set for knockout. Edit the Trap
Black
5) 1 image has been modified. Locate the Image
0129 up.epson.PEPS
6) 1 image is scaled. Edit the Image
0129 up.vst.eps
7) 2 image effective resolutions are not within the specified range. Edit the Image
0129 up.epson.PEPS
0129 up.vst.eps
Page Setup
Print
Save

Those in a hurry will appreciate the Results screen, which distills salient information and suggests solutions for problems discovered.

FlightCheck

From previous page

also have reason to rejoice: FlightCheck is AppleScript-compatible.

Every little thing

One of the most frustrating parts of pre-press work is the waste: Subtle errors and inappropriate settings can cause an imagesetter to spew dozens of expensive spot-color plates when you really wanted a process separation. Missing fonts and QuarkXTensions, embedded graphics, and unsupported printer effects all result in hours of lost work. Because pre-press management is such a complicated matter, most pre-press utilities are designed to thoroughly address narrowly defined issues.

In contrast, FlightCheck offers a more comprehensive look at documents, covering their various facets through two overview screens and a seemingly endless series of detail screens. The two overview screens — the Main screen and Results window — are appropriate for two different needs.

The Main screen tells you everything you could possibly want to know about your document: what colors are in it and how they are used; the type, make and version number of referenced fonts; the scaling, resolution and screening of graphics; and much more. Markzware claims that FlightCheck reports on more than 140 types of potential problems from this information.

Double-clicking on an item opens the relevant detail screen. These delve pretty deeply into the inner workings of system resources. The Font Info screen includes minutiae such as the font ID number, while the graphics screen lists all colors used in the image and includes a preview.

This two-step arrangement allows unprecedented control without unnecessary distraction, but it does have its drawbacks. For one, the menu choices that bring up specific windows are a bit disorganized and counterintuitive. A unified windows menu would be clearer than splitting windowing commands between FlightCheck, Views and Forms menus. Also, it's often hard to tell which window goes with which document, especially if there are several in the queue. (FlightCheck will open only one document at a time, and it's unclear what constitutes "closing" a document.)

Those who find the Main screen too information-rich will appreciate the Results window, which lists potential problems and offers solutions. We suspect that service bureaus will use this view most often, as it more clearly warns about the fatal problems bureau workers fear most.

FlightCheck provides two other ways to limit the information displayed. A Views palette lets you ignore certain information about colors, fonts and images on the fly, while the Ground Controls palette defines what FlightCheck considers an error. The latter palette is incredibly detailed, with 108 check boxes to define your preferences. A pop-up list saves these preferences as desired, so that a service bureau could, for example, check film output one way and paper output another. FlightCheck automatically updates reports based on changes made in either of these palettes, as it does when the program is in the background and then brought to the front again.

Inner elegance

Markzware is best known for its XTensions and for the prosaically named PM>QXP XT, a utility that miraculously converts PageMaker documents to XPress format. The company's experience in deciphering the vagaries of both programs' formats is apparent in FlightCheck — as is a bias toward XPress. That's because PageMaker documents are internally converted to XPress format during FlightCheck's scan. Thus, some results are in terms that PageMaker-only shops might find odd. (Tracking is given with a numerical value instead of PageMaker's Loose-Tight system, for example.) The conversion process seems to be perfectly reliable, though, and comes at no significant speed cost.

In general, we found FlightCheck reasonably fast and efficient. It scanned a complex, error-ridden XPress magazine page in about 30 seconds and a simpler six-page PageMaker newsletter in about the same time. FlightCheck did display some anomalies, such as misidentifying several documents' creators and flagging a letter-size page as being too big for a laser printer, but these mistakes were few and far between.

In times of trouble, the 40-page manual was helpful, if too brief: It glosses over some useful features, particularly those accessible by holding down Command keys while clicking. Far more useful to understanding the program's enigmatic icons is the context-sensitive on-line help, which the manual doesn't even mention.

The one FlightCheck function that seems below par is the Forms menu. Ideally, this window is meant to let you create printable standardized forms based on information gathered by FlightCheck. But the tools for creating these forms are anemic, and the forms themselves don't reflect changed information when a new document is opened. Instead, we recommend you use FlightCheck's Collect Report command or XPress' Collect For Output feature.

Conclusions

FlightCheck is a rare gem: A program that shoots for the stars and, for the most part, reaches them. While a stellar performer, it's not without its quirks, most notably in presenting a slightly confusing interface and occasionally making strange judgments. But these issues are minor distractions. Overall, the folks at Markzware have done a very fine job of collecting and presenting complex information.

Markzware Software of Santa Ana, Calif., can be reached at (714) 756-5100 or (800) 300-3532; fax (714) 756-5108; info@markzware.com; http://www.markzware.com. — *By Tom Geller*

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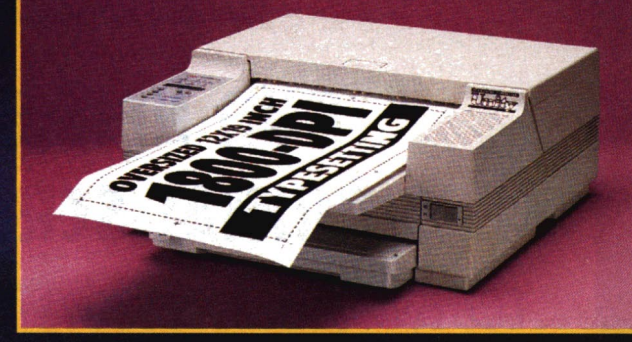

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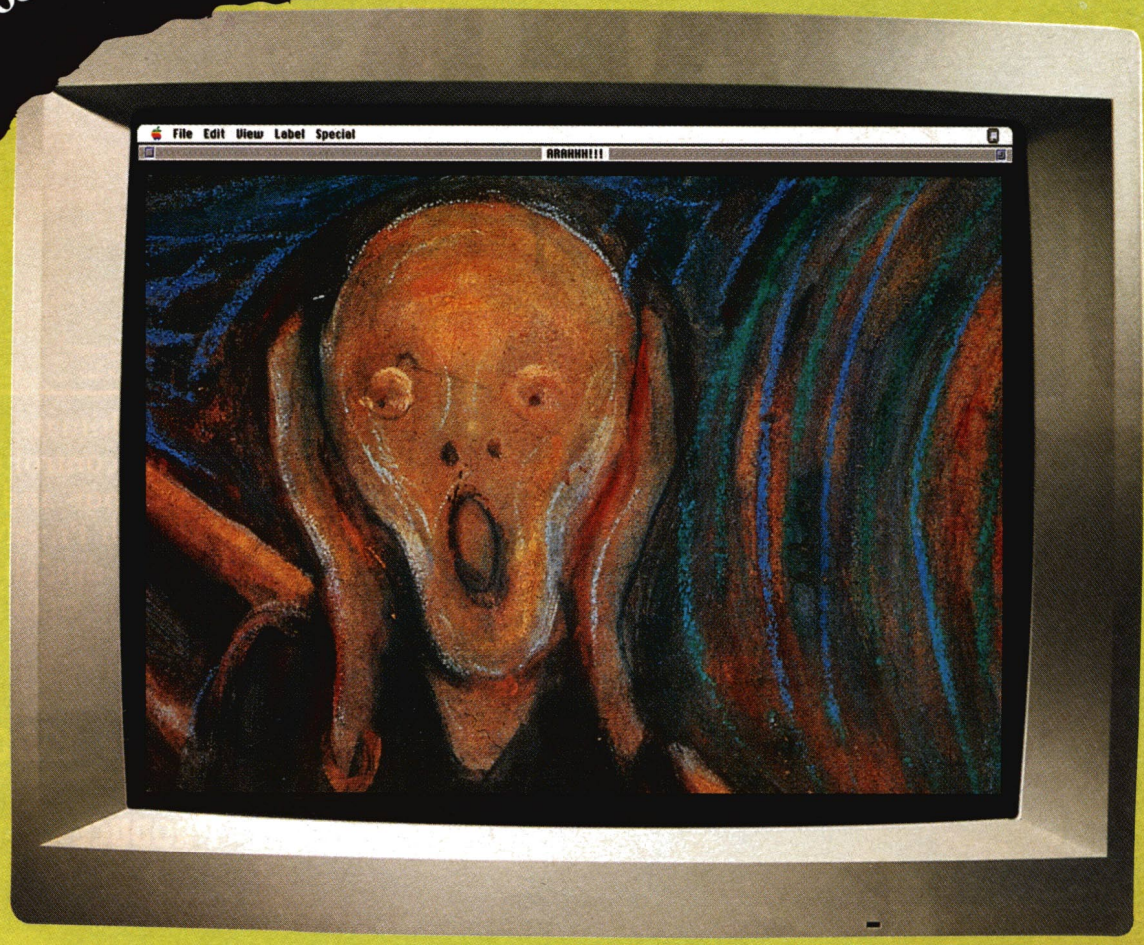

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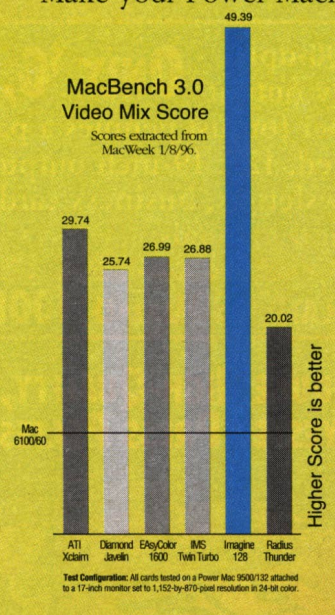

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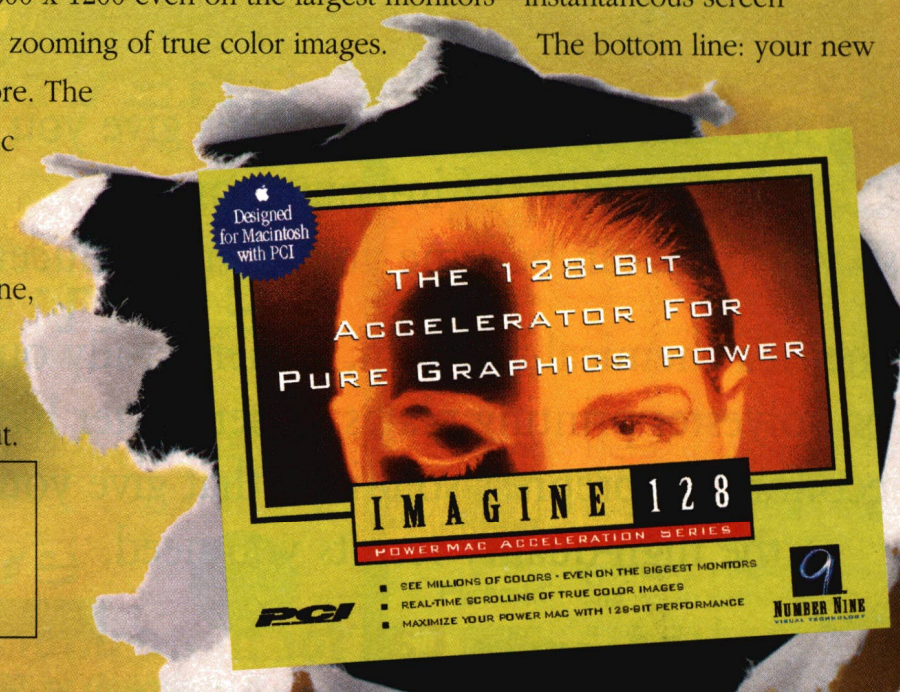
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PERFORMANCE RAISED TO THE POWER OF 9.

FEDERAL POWER

An executive order in April 1993 mandated federal purchase of Energy Star-compliant equipment.

MONITORS

EPA's energy-use standard no star to corporate users

By Erik Sherman

In that classic movie of doomed passion "The Postman Always Rings Twice," a soon-to-be-murdered character constantly turns off the lights, asking, "Are you working for the light company?" If life imitated art, network administrators would be asking their users the same thing. Or maybe not.

The once ballyhooed Energy Star label, an Environmental Protection Agency certification that requires computers and monitors to have energy-saving features, has made shallow inroads into corporate consciousness. When it comes to energy conservation, employees are more concerned about getting a job done or about their own comfort than about saving a few kilowatt hours.

Jeff Multach, lead analyst with desktop systems engineering at Ameritech Inc. of Hoffman Estates, Ill., said he has never heard anyone at his company mention the importance of Energy Star.

"As far as I know, [the results] from a general office impact [have been] zip," Multach said.

The Energy Star feature of putting a monitor or machine into a sleep state during periods of inactivity is often viewed negatively. "As a matter of fact, some of our people who have energy features on have come back saying, 'Hey, there's something wrong with my machine,' when it didn't come back fast enough," he said.

Frank Calabrese, manager of personal computing at Bose Corp. in Framingham, Mass., said, "I get no bonus or warm feel by calculating the amount of [energy] savings per year."

It's not that the company does not appreciate saving money or the environment. "As a corporation, we do recycle," Calabrese said. "It absolutely cannot cost me more to be Energy Star-compliant. It's great if it costs the same amount of money. It's wonderful if it costs me less," he said.

At New York's Mount Sinai School of Medicine, Macintosh systems specialist Lou Hernandez said that he thinks Energy Star compliance is low on the consideration list.

"I would challenge anyone to come into a company and show hard dollar savings."

— Jeff Multach, Ameritech Inc.

The organization typically specifies Apple equipment because it is an authorized Apple service provider, and it reduces support costs. Since Apple produces only Energy Star-compliant monitors, Mount Sinai monitors are compliant by definition.

Bose's Calabrese agreed that the label becomes a low-level differentiator between products. "It's nice when products have [the Energy Star label]. If we had the choice of two identical products at two identical prices, we would buy the Energy Star product," he said.

"We've been buying Energy Star-compliant NEC monitors for a long time. We set a product standard and, as best we can, adhere to that standard," Calabrese said. He added, however, "We look at [products] for their inherent merit." According to Calabrese, an Energy Star label is an added bonus and not a reason to buy a lower-end product.

"It's a check-box item, but it's not that important," said Jeffrey Henning, principal analyst at Perseus Research of Norwell, Mass. "The people responsible for paying the power bill are not the ones responsible for buying the machine."

Calculate the savings

One reason for a casual approach to energy savings is the difficulty in documenting it. "I'm not sure if it'll be possible to tell whether or not any money's being saved by the Energy Star equipment," said Andrew Sasaki of New York, a section leader on CompuServe's Mac Community Club Forum. "In my own office, for example, there are a couple of hundred Macs, at least half with Energy Star features. We've been adding employees steadily, so naturally energy use has been going up in our office. Utility bills don't break out the computers from the other stuff, and they just keep going up," he said.

Ameritech's Multach said, "I would

See Solutions, next page

GORDON STUDER

MACINTOUCH

RIC FORD

Check cache vs. power; watch RAM in 7.5.3

A discussion in the MacWEEK Forum on CompuServe recently brought to light some serious problems with storage devices. Ignoring these issues could endanger your data.

According to a description posted by Thomas Beardmore, manager of technical resources for APS Technologies Inc., Quantum Fireball SCSI drives can corrupt data at shutdown when power is cut off before the drive has written data out from its cache (see 03.18.96, Page 4). The mechanism is offered by many third-party storage and clone vendors. It also comes preinstalled in some Apple systems, but company officials said its driver already avoids the problem.

The glitch could affect other drives, too, in Macs with software power control. Systems with hardware power

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SOLUTIONS

From previous page

challenge anyone to come into a company and show hard dollar savings." Vendors claiming bottom line savings would likely face the response, "If I don't show this much power savings in three months, are you going to give me a refund?"

Calabrese agreed that Energy Star use is "a bonus, and it may or may not be a significant bonus."

Shooting star

Linda Latham, director of Energy Star programs for the EPA in Washington, D.C., estimated that direct energy savings on monitors alone could run to $20 per monitor per year, based on four hours of use out of a nine- to 10-hour work day. She said that 75 percent of the potential energy savings comes from reduced use of monitors alone, and that there are additional indirect savings of probably 10 percent to 20 percent in air conditioning costs, because of reduced heat.

Henning put it more succinctly, "If everyone who had a computer had an Energy Star computer, it would save a small nuclear power plant."

Eric Burger, director of engineering at The Telephone Connection Inc. of Rockville, Md., said: "We haven't calculated savings per se, but Energy Star has become very important for people on the road.

"Remote access at any hour of the day means the desktop machine needs to be powered up at all times. However, the display and disk rarely need to be active for the 80 percent of the day the machine isn't accessed," Burger said.

It seems, however, that the sleep feature can actually cause some users to waste more energy than they save. Burger, for example, leaves his machine on at night for remote access. In the past, he simply turned the monitor off at night and left the CPU on. After acquiring an Energy Star monitor, he began leaving the monitor on. But even though the sleep state uses less energy than a night light, leaving the monitor on all night burns more energy than is saved in sleep states during the day.

There is general agreement among the corporations interviewed for this article and the EPA that about 30 percent to 40 percent of business users leave monitors on at night. "Or the classic is they leave the monitor on and turn the computer off," Burger said.

> The interest in Energy Star wore thin because saving energy was associated with saving money, not the environment.

Many users forget that the power down state still uses electricity. Hernandez pointed out that many users do not realize that they can safely turn off the monitor while leaving the computer on. He also noted that many users with screen savers think that flying toasters mean the computer is not on.

In many corporations, computers must remain on to allow proper network backup. Some users, Hernandez said, are not aware that they can turn off the monitor without turning off the CPU.

Also, it is not enough to have a compliant monitor. The computer must support either Energy Star or the DPMS (Display Power Management Signaling) specifications of the Video Electronics Standards Association, according to the EPA's Latham. Without those features, the sleep cycle on the monitor does not work.

In any company, MIS management and staff often tread a fine line between common sense and corporate political correctness. Mount Sinai's Hernandez said he thought that an MIS department could look better to the management by showing that it was saving so many watts or being environmentally conscious.

"People are always looking to do things that are environmentally friendly," Ameritech's Multach said. "You have to balance that against time and cost." To support an Energy Star standard, he said, a company would first need to design a process for compliance throughout the company, then monitor the results. He said it is more efficient to tell people to turn monitors off if they were going to a meeting. "It's called practicality."

The Energy Star label has been losing mind share since its introduction in 1993. The label — which covers a wide range of office equipment, including computers, monitors, printers, fax machines and copiers — was much touted by the Clinton administration.

Energy Star logos began appearing in ads and product literature. But as time went on, the interest in Energy Star wore thin because saving energy was associated with saving money, not the environment. It seems that the average business user does not fret over a few dollars out of the corporate coffers.

"We initiated an education campaign last year, the idea being to raise the [awareness] level of procurement officers in the company on the benefits of buying Energy Star equipment," the EPA's Latham said. More than 100 different public and private organizations have made official commitments to specify Energy Star products. But the gap between official commitment and official practice still exists. A company must do much more than sign a simple piece of paper. "It takes a lot of actions by a lot of individuals," Latham said. □

Eco-label standards abound

There is an old saying, "Standards are great — everybody has one." This applies as much to so-called eco labels as to virtually everything else in the computer industry.

Eco labels are certifications devised by governments to ensure that a computer meets certain environmental or energy standards. There are many such labels: Energy Star in the United States, Germany's Blue Angel, Swiss Energy 2000 and the NUTEK label in Sweden.

Some of these labels are narrowly focused, such as Energy Star. Others, like Germany's Blue Angel, govern many aspects of personal computer manufacturing.

These labels can act as trade barriers, however. While none of the labels is mandatory for all computers, it can be difficult to sell to large corporations or the government in a given country without supporting that country's label.

Things get confusing when eco label standards are different. Energy Star requires power consumption of less than 30 watts when the computer or monitor is not being used — known as "sleep" mode.

Sleep mode in Swiss Energy 2000 is scheduled to drop to 5 watts by the end of 1997 and down to 3 watts by the end of 1999. The trick is to meet all standards with a single product.

— By Erik Sherman

MACINTOUCH

From previous page

caching in its own drives, but third-party disk utilities, such as FWB Inc.'s HDT World Control and APS PowerControl, can enable write caching to boost performance even on Apple drives (see 07.25.94, Page 41).

Different approaches

There are various technical approaches to dealing with the issue, but the simplest option is to disable write caching for drives that hold important data. HDT World [illegible] APS PowerControl can han[illegible]tted with

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Quantum's Technical Bulletin FBS-0039I covers the issue, and Apple may eventually document it publicly.

In a different area of drive reliability, the folks at APS also noted higher failure rates among 7,200-rpm drives in comparison with their slower, 5,400-rpm cousins. Extra heat and susceptibility to shock are apparently issues with the faster, newer drives.

Moving on to tape drives, recent "cost-reduced" redesigns of DAT drives have had some problems, too. Changes in their electrical filtering made these drives unusually susceptible to interference, ac[illegible]g to APS. Symptoms include re[illegible]formance and transient -204 and [illegible] with Dantz Development backup application. [illegible]ers are addressing [illegible]bers, and APS [illegible]s outside [illegible]ce.

> **A System 7.5.3 bug ties up memory as applications are launched and quit.**

Several readers have confirmed serious problems with SCSI ID 5 (see 02.26.96, Page 49). After initially denying knowledge of it, Apple finally admitted to a bug in the SCSI Manager code of System 7.5.2. According to product manager Bob Filice, the bug is fixed in new code within System 7.5.3 enablers, and he promised documentation in a future technical note. Reported symptoms include data corruption, freezes and problems accessing devices. The best option at the moment is simply to avoid this ID.

System 7.5.3 debut

Following up on a user's report noted in this column, APS' Beardmore said that the company had seen no conflicts between Macintosh Easy Open (MEO) and its APS PowerTools while running the combination in-house on several Macs. In any case, it makes sense to update to MEO 1.1.2, which is part of System 7.5.3. This version fixes a "drag delay" problem, according to the release notes.

Apple's Internet servers, along with my own Web site and e-mail box, are overloaded as I write this just after System 7.5.3's introduction. We are all in the process of obtaining, installing and assessing the new Mac OS, and there are a few things to note right at the beginning.

- Installing System 7.5.3 (System 7.5 Update 2.0) can be problematic. Customers are reporting a wide variety of problems, from Type 11 errors to networking breakdowns. You should expect side effects and do pre-installation backups.
- The new system has a bug that ties up memory as applications are launched and quit over time. Quitting all applications does not release all the memory.
- A System 7.5.3 Technote provides documentation on the software that is more extensive. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.

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N024 1062	MultiSpin 6Xe CD-ROM Reader	150ms	900k/sec.	$479
N024 1070	MultiSpin 4Xc 7 Disc Changer	350ms	600k/sec.	$339
N024 1011	MultiSpin 3Xp plus Portable CD-ROM	240ms	500k/sec.	$349

ClubMac

		Access time	Trans Rate	
C104 1600	ClubMac Six-Speed CD-ROM Drive	140ms	900k/sec.	$299
C104 1500	ClubMac Quad-Speed CD-ROM Drive	140ms	600k/sec.	$179
C104 1400	ClubMac Classic 2X CD-ROM Drive	250ms	300k/sec	$99

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ClubMac

SyQuest

C104 1801	ClubMac 200MB 5.25" Removable*	$349
C104 1800	ClubMac 88MB 5.25" Removable* BEST BUY	$199
C104 1802	ClubMac 270MB 3.5" Removable*	$349
C104 1803	ClubMac 105MB 3.5" Removable*	$149
S198 2001	SyQuest EZ135 135MB 3.5" Removable	$219

*Cartridge not included

SyQuest Media

BEST BUY

Part Number	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	$40ea	$39.50ea	$39ea
S198 1011	88MB	$44ea	$43.50ea	$43ea
S198 1012	200MB	$69ea	$68ea	$67ea
S198 1013	105MB	$35ea	$34.50ea	$34ea
S198 1014	270MB	$57ea	$56ea	$55ea
S198 2010	EZ135MB	$23ea	$22.50ea	$22ea

iomega

I044 1010	Zip Drive with One 100MB Cartridge	$199.99
I040 1006	Zip Cartridge (100MB)	$19.99
I040 1011	Zip Cartridge (3 pack)	$49.95
I040 1010	Zip Cartridge (10 pack)	$149.95

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C104 0900	ClubMac 2-4GB SCSI MiniCartridge Drive (Cartridge not included)	$489
C104 1300	ClubMac 2.0GB ThunderDAT Drive	$749
C104 1301	ClubMac 4-8GB DDS-2 DAT Drive	$899
C104 1200	ClubMac 4-8GB DDS-2 SuperDAT Drive	$1059
C104 0200	ClubMac 40GB DLT Subsystem DLT 4000	$4999
S100 1043	Sony QW3080XLF QIC/WIDE 2-4GB Cartridge	$29
V010 1018	Verbatim 90M 4mm DAT Cartridge 2-4GB	$9
V010 1043	Verbatim 120M 4mm DAT Cartridge 4-8GB	$20
Q034 1022	1/2 inch media for DLT 4000	$99

OPTICAL DRIVES

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C104 1900	ClubMac 5.25" Olympus 1.3GB Optical w/1.3GB Cartridge	$1359
C104 1902	ClubMac 3.5" Olympus 230MB Optical w/230MB Cartridge	$459
V010 1021	Verbatim 1.3GB Optical Cartridge 1024KB	$59
V010 1013	Verbatim 230MB Formatted Optical Cartridge	$24

TORAY Optical Storage Solutions

T140 1001	TORAY Phasewriter DUAL™ PD 4XCD/650MB Optical	$649
T140 2001	TORAY PDM-650 Media (ZCAV 650MB)	$59

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P074 1005	Apex 4.6GB Optical w/One Cartridge	$1589
P074 1006	Apex 4.6GB 1024K Media	$189

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Y010 1002	Yamaha 4X CD Recorder w/Toast CD Mastering software	$1829

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- External drives include a Double Shielded, twisted pair 25-50 SCSI cable.
- ClubMac honors all original equipment manufacturers warranties. ClubMac will repair or replace drives at it's discretion. Drives returned within first 30 days of purchase are replaced with a new unit.
- All ClubMac hard drives include a 30 day money back guarantee. Your risk is the cost of shipping.

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R016 1032	Radius PrecisionView 21Display	$2299
R016 1034	Radius PressView 21•SR Display System	$3199

NEC

N026 1029	NEC 14" C400 Display (NEW PRODUCT)	$299
N026 1031	NEC 15" MultiSync XV15+	$469
N026 1032	NEC 17" MultiSync XV17+	$799
N026 1009	NEC 17" MultiSync XP17	$1049
N026 1010	NEC 21" MultiSync XE21	$1779
N026 1011	NEC 21" MultiSync XP21	$2159

SONY

S106 1021	Sony Multiscan Trinitron 15SX-1	$445
S106 1017	Sony Multiscan Trinitron 15SF-2	$515
S106 1018	Sony Multiscan Trinitron 17SF-2	$915
S106 1019	Sony Multiscan Trinitron 17SE-2T	$1095
S106 1020	Sony Multiscan Trinitron 20SF-2	$1855

Portrait Display Labs

P026 1003	Portrait/Pivot 1700 .26 Dot Pitch	$1049
P026 1004	Portrait/Pivot 1700 .28 Dot Pitch	$989

MAG INNOVISION

M156 1004	MagInnovision DX15T Technitron w/Trinitron tube	$419
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HEWLETT PACKARD

H047 1030	HP LaserJet 5MP Laser Printer	$1045
H047 1039	HP DeskWriter 600 InkJet Printer	$249
H047 1033	HP DeskWriter 660C Inkjet Printer	$379
H047 1041	HP DeskJet 850C InkJet Printer	$515
H047 1042	HP DeskJet 1600CM/PS PostScript Printer	$1985
H047 1061	HP DeskJet 340CM w/Color kit & Mac adapter	$339

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E047 1018	Epson Stylus Color II	$349
E047 1019	Epson Stylus Color Pro	$599
E047 1022	Epson Stylus Pro XL	$1799

NEC

N027 1001	NEC SilentWriter Model 640	$399
N027 1006	NEC SuperScript 3000M Color Dye-Sub	$399

SCANNERS

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AGFA

A055 1011	Agfa StudioScan IIsi	$745
A055 1001	Agfa Arcus II	$2195

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M150 1026	Microtek Scanmaker E3	$399

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U010 1044	Umax PowerLook Pro w/ Transparency Adapter (30 Bit)	$1949
U010 1054	Umax Vista-S12 Pro (33 Bit)	$899
U010 1038	Umax Vista-S8 MacLE (24 Bit)	$769
U010 1153	Umax Vista-S8 MacLE w/ Transparency Adapter (24 Bit)	$799
U010 1061	Umax Vista-S6E (24 Bit) (BEST BUY)	$399
U010 1010	Umax Vista-S6 LE (24 Bit)	$559

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R013 1018	Radius VideoVision Studio 2.5.1	$2399
R013 1077	Radius Telecast Upgrade	$3459

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A143 1010	ATI XCLAIMGA 2MB PCI Graphics Card	$369
A143 1009	ATI XCLAIMGA 4MB PCI Graphics Card	$499

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NUMBER NINE VISUAL TECHNOLOGY

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N080 1003	4MB	$729
N080 1002	8MB	$1169

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			w/Painter 4.0
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W010 1028	ArtZ II 6x8 with Erasing Pen	$298	W010 1033 $369
W010 1029	ArtZ II 12x12 with Erasing Pen	$425	W010 1034 $578
W010 1030	ArtZ II 12x18 with Erasing Pen	$695	W010 1035 $705
			W010 1036 $975

CALCOMP

			w/Painter 4.0
C290 1002	DrawingSlate II 6x9 w/Cordless Pen	$205	C290 1003 $480
C290 1001	DrawingSlate II 12x12 w/ Pen	$229	C290 1005 $498

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D040 1018	DayStar Turbo 040	$599
D040 1057	DayStar 100MHZ PowerCard 601	$969
D040 1043	DayStar 100MHZ PowerPro 601	$1199
D040 1050	DayStar 100MHZ Turbo 601 for IIsi, IIci, Performa, IIvx, IIvi	$1139

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M264 1002	MicroMac 66/33Mhz Carrara 040	$299
M264 1003	MicroMac 80/40Mhz Carrara 040	$499
M264 1008	MicroMac 32Mhz Thunder	$149
M264 1009	MicroMac 32Mhz Thunder Cache	$199

MODEMS

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B030 1007	Fast Mac V.34 28.8 Fax/Data Modem	$139

BEST DATA Merging Multmedia & Communications

B020 1001	Best Data 2834FLXMAC 28.8 V.34 External Mac	$155
B020 1003	Best Data 2834VLXMAC 28.8 V.34 External Mac w/Voice Mail	$188

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G050 1006	TelePort Gold II	$109
G050 1016	TelePort Platinum	$199
G050 1002	PowerPort Mercury for PB 5xx	$325
G050 1019	PCMCIA 28.8KBPS Fax/Data/10BaseT Ethernet	$499
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TDK

T210 1001	28.8Kbps V.34 Data/Fax PCMCIA modem Card	$249

NETWORKING

ASANTÉ

A120 1010	10BaseT FriendlyNet Media Adapter FN10TA	$39.95
A120 1023	Thick/10BaseT Hub MCiNB-10T	$109
A120 1003	10BaseT Hub (8 RJ45 ports, 1 AUI & 1 BNC) 10THUB/8	$149
A120 1062	10BaseT Hub (12 RJ45 ports, 1 AUI & 1 BNC) 10THUB/12 (BEST BUY)	$149
A120 1032	ASANTÉ Micro ASANTÉPRINT 10BT	$285

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D300 1029	DaynaStar MiniHub 8 RJ45 10BT *BLOWOUT SPECIAL!*	$109

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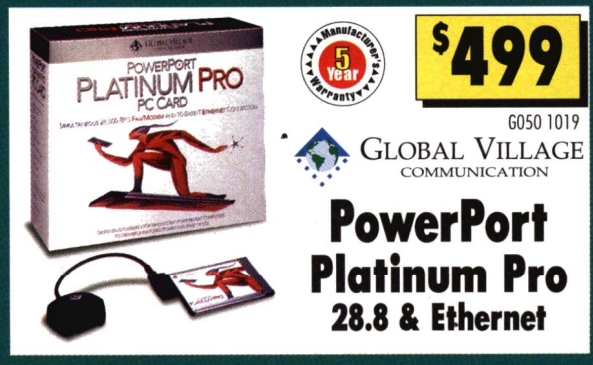

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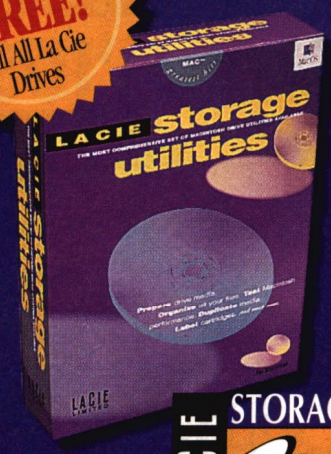

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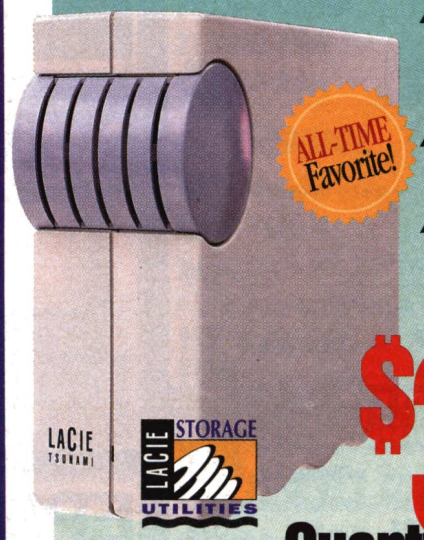
TSUNAMI HARD DRIVES



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1080MB Quantum Fireball	5400 rpm	3 yr. warr.	$249
1280MB Quantum Fireball	5400 rpm	3 yr. warr.	$289
2160MB Ultrastar ES IBM	5400 rpm	3 yr. warr.	$499
4.3GB Quantum Atlas	7200 rpm	5 yr. warr.	$999

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- Share hard disk-sized files with diskette convenience.
- Docking provides new security and backup solutions.
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2160MB IBM Ultrastar ES	5 year warranty	$799
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8.0GB TURBO DAT DDS-2	Includes Retrospect	$1159
230MB Optical	1 year warranty	$529

TOWER JOULE DRIVES

3.5" Drives with Mount	For use in Tower with a Joule Base.
850MB Quantum Trailblazer	3 year warranty $329
1080MB Quantum Fireball	3 year warranty $369
2160MB IBM Ultrastar ES	5 year warranty $799
4.3GB Quantum Atlas	5 year warranty $1099
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230MB Optical	1 year warranty $529

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1080MB Quantum Hard Drive	3 year warranty	$489
2160MB IBM Ultrastar ES Hard Drive	3 year warr	$699
230MB Optical	1 year warranty	$529

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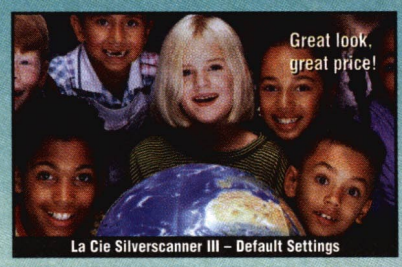

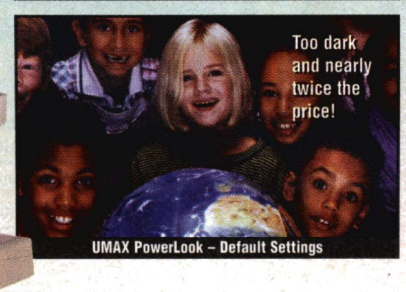

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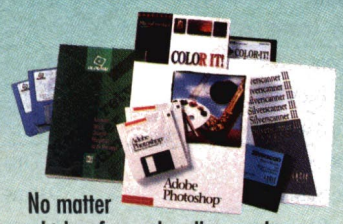

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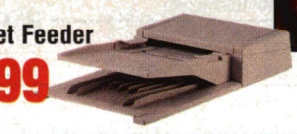

Sheet Feeder $499

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$197 EZ135

EZ135MB Includes **FREE** cartridge	2 year warranty	$197
135MB Cartridge		$19.95

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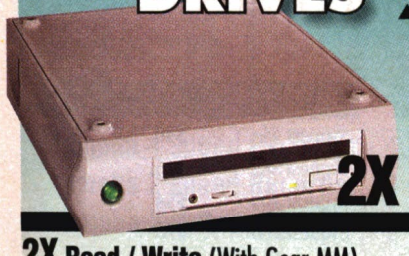
- ▲ CD-Rs ship with Gear Multimedia ($500 value!)
- ▲ Low cost media for backup.
- ▲ 1 MB Cache.
- ▲ Exclusive packet writing.



$989 2X Read/Write

2X Read / Write (With Gear MM)		$989
650MB CD-R Disk 74 Minutes	10 Disk Pack	$79

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230MB Internal	1 year warranty	$399
230MB External	1 year warranty	$469
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2.6GB External	1 year warranty	$1999
2.6GB Optical Cartridge		$99

DAT Drives Includes Retrospect	Internal	External
2.0GB DAT		$699
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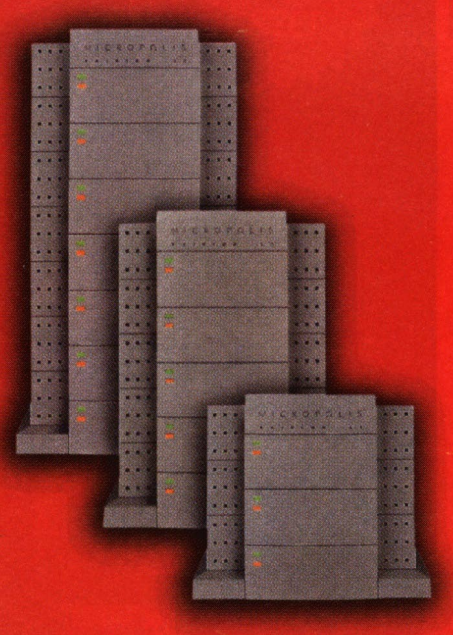

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THE STACKABLE, REMOVABLE DRIVE SUBSYSTEM

Model #	Capacity
MDLT2100/AV	2.1 GB
MDLT4300/AV	4.3GB
MDLS9100/AV	9.1GB

NOW AVAILABLE IN FAST/WIDE CONFIGURATION.
ASK ABOUT THE MICRODISK RAID 5 ARRAY!

CALL FOR LATEST PRICING AND CONFIGURATION.

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ALL DRIVES ARE PREFORMATTED, TESTED AND PACKAGED WITH SCSI MANAGER 4.3 COMPATIBLE DRIVERS. EXTERNAL DRIVES INCLUDE CHOICE OF 25-50 OR 50-50 PIN CABLE.

Capacity	Model No.	Mechanism	Seek	Warranty	Internal	PHASER-I
420 MB	DT-420TB	Quantum	11ms	2 yrs	$150	$225
850 MB	DT-850TB	Quantum	11 ms	2 yrs	$199	$275
1.05 GB	DT-51080	Seagate NEW LOW PRICE!	10.0 ms	5 yrs	$269	$344
1.0 GB	DT-1080FB	Quantum	11ms	3 yrs	$269	$344
1.05 GB	DT-31230	Seagate NEW LOW PRICE!	9.0 ms	5 yrs	$380	$455
2.0 GB	DT-4221	Micropolis NEW LOW PRICE!	8.0 ms	5 yrs	$545	$625
2.0 GB	DT-2490	Hewlett Packard	9.0 ms	5 yrs	$950	$1,050
2.1 GB	DT-32550	Seagate Barracuda II NEW LOW PRICE!	8.0 ms	5 yrs	$725	$800
4.3 GB	DT-3243	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$999	$1,075
4.3 GB	DT-15230	Seagate Hawk 4 NEW PRODUCT!	9.0 ms	5 yrs	$899	$975
4.3 GB	DT-15150	Seagate Barracuda NEW LOW PRICE!	8.0 ms	5 yrs	$1,175	$1,250
9.0 GB	DT-1991	Micropolis NEW LOW PRICE!	12 ms	5 yrs	$1,950	$2,050
9.0 GB	DT-410800	Seagate Elite 9 NEW LOW PRICE!	11 ms	5 yrs	$2,025	$2,125

AUDIO/VIDEO TUNED DRIVES

DIRECTTECH SYSTEMS IS AN AUTHORIZED A/V PARTNER WITH SEAGATE AND MICROPOLIS.

Capacity	Model No.	Mechanism	Seek	Warranty	Internal	PHASER-I
1.05 GB	DT-31230AV	Seagate	9 ms	5 yrs	$380	$455
2.0 GB	DT-4221AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$600	$775
2.1 GB	DT-32550AV	Seagate Barracuda	8.0 ms	5 yrs	$725	$800
4.3 GB	DT-3243AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$1,050	$1,125
4.3 GB	DT-15150AV	Seagate Barracuda	8.0 ms	5 yrs	$1,175	$1,250
9.0 GB	DT-1991AV	Micropolis NEW LOW PRICE!	12 ms	5 yrs	$2,050	$2,150
9.0 GB	DT-410800AV	Seagate Elite 9 NEW LOW PRICE!	11 ms	5 yrs	$2,025	$2,125

FAST/WIDE SCSI DRIVES

MOST EFFECTIVE WHEN COMBINED WITH A FAST/WIDE ATTO BOARD. CALL FOR SPECIAL CONFIGURATIONS!

Capacity	Model No.	Mechanism	Warranty	Internal	PHASER-I
2.1 GB	DT-32550W	Seagate Barracuda 2LP Wide	5 yrs	$799	$899
2.1 GB	DT-4221W	Micropolis 4221Wide	5 yrs	$625	$725
4.3 GB	DT-15150W	Seagate Barracuda 4 Wide	5 yrs	$1,225	$1,325
4.3 GB	DT-3243W	Micropolis 3243Wide	5 yrs	$1,050	$1,150
9.0 GB	DT-1991W	Micropolis 1991Wide	5 yrs	$2,085	$CALL
9.0 GB	DT-1991AVW	Micropolis 1991AVWide	5 yrs	$2,185	$CALL
9.0 GB	DT-410800W	Seagate Elite 9 Wide	5 yrs	$CALL	$CALL

DISK ARRAYS/RAID

MEDIA 100 * RADIUS * DIGITAL VIDEO * TARGA 2000
ARRAYS INCLUDE - ATTO CARD, REMUS & 2 FAST/WIDE DRIVES

Capacity	Model No.	Mechanism	Seek	Warranty	EXTERNAL
4.0 GB	DT-32550W-2	Seagate - Fast/Wide Barracuda 2LP (2)	4.0 ms	5 yrs	$CALL
8.0 GB	DT-3243WAV	Micropolis - Fast/Wide 3243AV (2)	4.0 ms	5 yrs	$CALL
18.0 GB	DT-1991WAV	Micropolis - Fast/Wide 1991AV (2)	4.0 ms	5 yrs	$CALL

CALL FOR MORE INFORMATION ON DIRECTTECH DISK ARRAYS!

ATTO Silicon Express IV	Nubus Fast/Wide Accelerator	$CALL
ATTO Express PCI	Dual Channel - PCI -Fast/Wide	$CALL
ATTO Express PCI	Single Channel - PCI-Fast/Wide	$CALL

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No charge for Visa, Mastercard or Amex

Government, Corporate, and University P.O.s Welcome!

- 30-day money-back guarantee on all drives.
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- RMA No. required for all returns.

Prices, terms, and availability are subject to change without notice.

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PHONE: (612) 941-2616
FAX ORDERS: (612) 942-0430

SYQUEST

INCLUDES ANUBIS FORMATTING SOFTWARE AND ONE CARTRIDGE

Capacity	Model No.	Internal	PHASER-I
88 MB	SQ5110C	$305	$365
200 MB	SQ5200	$420	$480
270 MB	SQ3270	$420	$470

CD ROM RECORDABLE

JVC Personal Archiver (2X)	$1,165
JVC Personal Archiver (4X)	$2,499
Yamaha CD Recorder (4X)	$1,699

NEW PRICING

TAPE

INCLUDES A FREE COPY OF RETROSPECT AND ONE TAPE

Capacity	Model No.	Format	PHASER-I
2 GB	HP-35470	4mm	$950
4-8 GB	Sony-5000	DDS-2	$999
4-8 GB	HP-1533A	DDS-2	$1,250
5-10 GB	Exabyte-8505	8mm	$2,150
15-30 GB	DLT-2000XT	DLT	$4,399

OPTICAL

INCLUDES ANUBIS FORMATTING SOFTWARE AND ONE CARTRIDGE

Capacity	Model No.	Seek	PHASER-I
230 mb	Fujitsu	30 ms	$675
1.3 GB	HP-C1716	23 ms	$1,999
1.3 GB	Maxoptix T-III	18 ms	$2,199

MEDIA

Type	Price
Syquest 44	$40
Syquest 88	$46
Syquest 105	$54
Syquest 200	$76
Syquest 270	$60
Optical 128 MB	$22
Optical 230 MB	$30
Optical 1.0 GB	$100
Optical 1.3 GB	$90

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"Direct Connections provided excellent technical support." **MacWorld July'95**
"Direct Connections' array offered the best performance per dollar of the drives tested." **Digital Video Oct. '94**
"Your next option is to locate...highly visible digital video suppliers like Direct Connections." **NEWMEDIA June '95**
"This array is the one to beat." **Ken Grey** Writer for WIRED, Computer User, MovieMaker, Computer Video, and Digital Video Magazine.
"Stick with a vendor such as Direct Connections that understands how to prepare a RAID for desktop video." **MacWorld April '95**

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- $5 million in inventory
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Seagate Hawk 2XL

- 1.2GB
- Ultra SCSI 3
- PRML
- Low profile
- Embedded Servo
- 3 yr warranty
- $ 399

5 YEAR WARRANTY

BRAND/MODEL	CAPACITY		ACCESS	RPM	INTERNAL	EXTERNAL
Hitachi 2.5" IDE***	540MB		14MS	5400	$ 245	
Hitachi 2.5" IDE***	810MB		14MS	5400	$ 339	
Hitachi 2.5" IDE***	1.0GIG		14MS	5400	$ 425	
Conner CFP1080	1.2GIG	LP	11MS	5400	$ 295	$ 365
Seagate ST51080N ***	1.2GIG	LP	12.5MS	5400	$ 290	$ 360
Seagate Hawk 2XL***	1.2GIG	LP	9MS	5400	$ 399	$ 469
Seagate Hawk	2.4GIG	LP	9MS	5400	$ 655	$ 725
Conner CFP2105S	2.1GIG	LP	9MS	5400	$ 499	$ 569
Conner CFP2107S	2.1GIG	LP	8MS	7200	$ 759	$ 829
Quantum Capella	2.2GIG	MR	8.6MS	5400	$ 699	$ 799
Quantum Atlas	2.1GIG	LP	8MS	7200	$ 795	$ 865
Seagate Barracuda 2	2.5GIG	LP	8MS	7200	$ 815	$ 885
Seagate Barracuda 2W	2.5GIG	LP	8MS	7200	$ 939	$ 999
Conner CFP2107W	2.5GIG	LP	8MS	7200	$ 795	$ 895
Fujitsu M2934S	4.2GIG	MR	8MS	7200	$ 1125	$ 1195
Fujitsu M2934W	4.2GIG	MR	8MS	7200	$ 1175	$ 1275
Seagate Barracuda 4	4.1GIG		8MS	7200	$ 1195	$ 1265
Seagate Barracuda 4W	4.1GIG		8MS	7200	$ 1255	$ 1325
Seagate ST15230N	4.3GIG		9MS	5400	$ 899	$ 999
Conner CFP4207S	4.2GIG		9MS	7200	$ 1045	$ 1115
Conner CFP4207wide	4.2GIG		9MS	7200	$ 1099	$ 1199
Quantum Atlas	4.3GIG		8.6MS	7200	$ 1099	$ 1169
Seagate Elite 9	9.0GIG		11MS	5400	$ 2095	$ 2195
Seagate Elite 9W	9.0GIG		11MS	5400	$ 2295	$ 2395

CD RECORDERS/PLAYERS

Ricoh 2 speed recorder / 2 speed player

$889

4 speed Recorder
4 speed Player
4 GIG Hard drive
10 Blank CD's
1 Toast Software
$2995

Includes Free software and 2 CD's

Yamaha 4 speed Recorder / 4 Player	External	$ 1749
Yamaha 2 speed Recorder / 4 speed Player	External	$ 1145
Yamaha 2x4 Recorder with built in hard drive	External	$ 1529
Pioneer 4 speed 6-Disc CD-ROM Changer	External	$ 325
Toshiba 3701 6 speed CD Player	External	$ 370
Pioneer 4 speed CD Player	External	$ 255

Many CD Tower Configurations available. Upto 500 Disks!

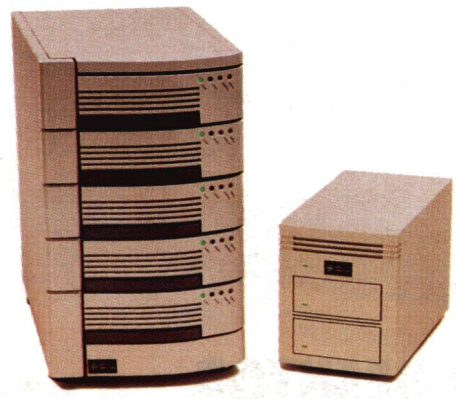
MEDIA

128MB	Optical	$ 15	10 Blank CD's	$ 69
230MB	Optical	$ 25	90M 4MM Tape	$ 8
1.3GIG	Optical	$ 69	160M 8MM Tape	$ 18

"Stick with a vendor such as Direct Connections that understands how to prepare a RAID for desktop video." MacWorld April '95

RAID SYSTEMS

FAST DESKTOP OR SERVER



- 28mb/sec sustained sequential Writes.
  Tested with MacBench on PowerMac 9500.
  12GIG with 2 PCI accelerator cards $ 7799

From Hardware RAIDS to Software RAIDS, we'll show you how to configure the best system to meet your needs.

External, Remus software, and cabling

4 GIG Fast and Wide Raid	$ 2199
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16 GIG Fast and Wide RAID	$ 6130
28 GIG Fast and Wide RAID	$ 9499
40 GIG Fast and Wide RAID	$ 15599

Atto Silicon Express IV	$ 835
Atto Express PCI MC	$ 765
Atto Express PCI SC	$ 345
Adaptec AHA-2940UW	$ 245
SCSI Expander	$1345

MEDIA 100 TARGA 2000 radius

OPTICAL DRIVES

2.6GIG Sony Optical for $1959 external including all cabling, and software!!

CAPACITY	MODEL	EXTERNAL
230MB	Fujitsu	$ 499
1.3GB	NEC	$ 1295
1.3GB	Sony 4MB cache	$ 1695
2.6GB	Hitachi	$ 1895
2.6GB	Sony	$ 1959
26GB	Sony Jukebox	$ 4695
52GB	Sony Jukebox	$ 6295

1 YEAR WARRANTY

TAPE BACK-UP

We are the tape-backup Experts

2 YEAR WARRANTY

With 2.5MB/sec sustained transfer, the DLT2000XT is perfect for digital video or pre-press with large data files.

All systems include one tape cartridge, cabling, and Retrospect software.

CAPACITY	MODEL	MEDIA	INTERNAL	EXTERNAL
-4GIG	Tandberg Panther	1/4"	$ 469	$ 539
-8GIG	Sony 7000 DDS-2* 1.5MB/sec	4MM	$ 1199	$ 1299
-14GIG	Exabyte 8505XL	8MM	$ 2065	$ 2125
-10GIG	Exabyte 8505S	8MM	$ 1475	$ 1575
-30GIG	DLT2000XT	1/2"		$ 3299
-40GIG	DLT4000	1/2"		$ 5399
-140GIG	Exabyte-10h Library	8MM		$ 4999
-200GIG	Spectra Logic 4000	4MM		$ 8599
-200GIG	DLT4500 Loader	1/2"		$ 8999

DIRECT CONNECTIONS 7668 Executive Drive Eden Prairie, MN 55344 Gov't, Corp, and Univ. P.O's accepted. *1YR Warranty 30 day money back does not apply towards media and software.

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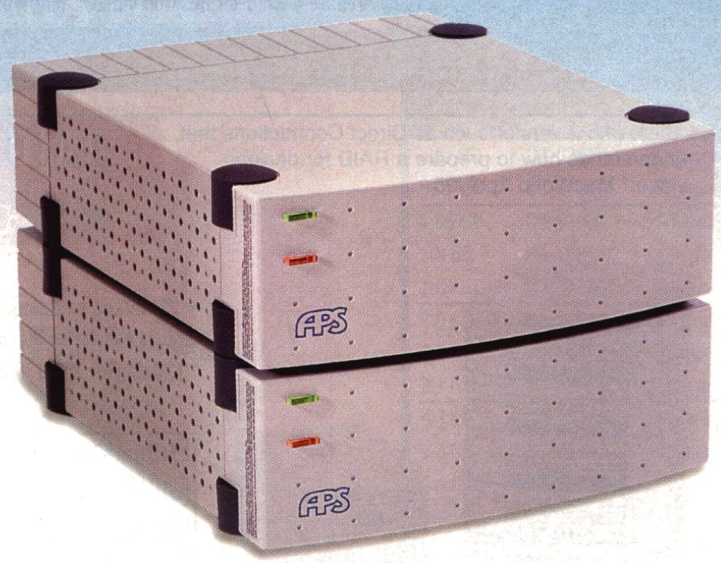
APS Technologies

4GB FOR UNDER A GRAND

JUST $999.95 Internal configuration



APS Q 4.0 Quantum

- ✔ Embedded servo eliminates thermal recalibration
- ✔ 7200 rpm mechanism delivers high transfer rates
- ✔ 2MB cache buffer boosts performance
- ✔ 5-year warranty

Using an embedded servo as well as a high-performance 7200 rpm mechanism, the APS Q 4.0 is equally at home with AV and non-AV applications. It is based on the Quantum Atlas XP 34300 mechanism with a 4300MB formatted capacity. The drive employs a huge 2048KB cache buffer and a unique cache-management algorithm to push data transfer rates as high as 10MB per second.

2GB ON YOUR DESKTOP

APS I 2160 IBM.

JUST $499.95 Internal configuration

- ✔ 8ms average seek
- ✔ Over 2060MB formatted capacity
- ✔ The best value for performance and capacity
- ✔ 5-year warranty

MacUser ZD LABS ★★★★

What a deal - 2063MB for under $500! Great performance, IBM MR head technology and 800,000 hour MTBF make this the drive to buy for all those needy workstations.

1GB INCREDIBLE DEAL!

APS I 1080 IBM.

$229.95 Internal configuration

- ✔ Over 1GB capacity with Fast SCSI-2 interface
- ✔ IBM Magneto-Resistive (MR) head technology
- ✔ 5400rpm mechanism
- ✔ 3-year warranty

Exceptional value, high performance, low power - what more could you ask? The APS I 1080 formats to 1034MB and delivers sustained transfer rates of 3.32MB /sec. (read) and 3.67MB/sec. (write). Rated at 350,000 hours MTBF, the APS I 1080 has a three-year warranty.

APS SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS Q 840 Quantum 840 Trailblazer	811MB 4500 rpm	MacUser ZD LABS ★★★★	$199.95	$299.95
APS I 1080 IBM 1080 Deskstar XP	1034MB 5400 rpm		229.95	329.95
APS Q 1080 Quantum 1080 Fireball	1042MB 5400 rpm	◆◆◆◆ MacWEEK; MacUser ZD LABS ★★★★	259.95	339.95
APS Q 1280 Quantum Fireball II 1280	1222MB 5400 rpm		299.95	399.95
APS I 2160 IBM Ultrastar ES	2063MB 5400 rpm		499.95	599.95
APS MS 2000 Micropolis 4421	2047MB 5400 rpm	Power Matched for Power PC	549.95	649.95
APS ST 4200 Seagate ST 15230N Hawk	4094MB 5400 rpm	MacUser ZD LABS ★★★★	899.95	999.95

APS IDE DRIVES FOR MACINTOSH

Model	Capacity/Features	Internal
APS Q 1280A Quantum Fireball II 1280	1222MB 5400rpm (Fast ATA-2)	$249.95
APS ST 2140A Seagate Medalist ST32140A	2167MB 5400rpm (Fast ATA-2)	399.95

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APS HIGH-PERFORMANCE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0 Micropolis 4221	1955MB 7200 rpm	Power Matched; MacUser ZD LABS ★★★½	$599.95	$699.95
APS MS 2.0AV Micropolis 4221AV	1955MB 7200 rpm	Power Matched	699.95	799.95
APS Q 2.0 Quantum Atlas XP32150	2050MB 7200 rpm	Power Matched; MacUser ZD LABS ★★★★	799.95	899.95
APS ST 2.0 Seagate ST 32550N	2047MB 7200 rpm	Power Matched	749.95	849.95
APS MS 4.0 Micropolis 3243	4064MB 7200 rpm	Power Matched; MacUser ZD LABS ★★★★	999.95	1099.95
APS Q 4.0 Quantum Atlas XP34300	4101MB 7200 rpm	Power Matched; MacUser ZD LABS ★★★★½	999.95	1099.95
APS MS 4.0AV Micropolis 3243AV	4064MB 7200 rpm	Power Matched	1099.95	1199.95
APS ST 4.0 Seagate ST 15150N	4094MB 7200 rpm	Power Matched; MacUser ZD LABS ★★★½; ◆◆◆◆ MacWEEK	1199.95	1299.95
APS MS 9.0 Micropolis 1991	8669MB 5400 rpm		1999.95	2199.95
APS MS9.0AV Micropolis 1991AV	8669MB 5400 rpm	MacUser ZD LABS ★★★★	2099.95	2299.95
APS ST 9.0 Seagate ST410800N	8669MB 5400 rpm		2199.95	2399.95

Power Matched for Power PC — These products are performance-matched for optimal performance in the Power PC environment.

APS FAST/WIDE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0W Micropolis 4221W	1955MB 7200 rpm	Power Matched	$699.95	$799.95
APS Q 2.0W Quantum Atlas XP32150W	2050MB 7200 rpm	Power Matched	899.95	999.95
APS MS 4.0W Micropolis 3243W	4064MB 7200 rpm	Power Matched	1099.95	1199.95
APS Q 4.0W Quantum Atlas XP34300W	4101MB 7200 rpm	Power Matched	1099.95	1199.95

FAST/WIDE ADAPTER CARDS

Model	External SCSI Connection	Internal
QLogic Fast!SCSI Mac PCI-W Adapter for Fast/Wide drives	HD 68-Pin	$379.95
Silicon Express IV For NuBus Quadras & Power Macs only. Fast/Wide adapter card.	HD 68-Pin	849.95

APS SCSI POWERBOOK DRIVES

Model	Capacity/Features	Awards	Internal
APS I 1.2 IBM Travelstar XP	1160MB 4900 rpm		$699.95

APS IDE POWERBOOK DRIVES

Model	Capacity/Features	Awards	Internal
APS Q 810 Quantum Europa	778MB 3800 rpm, Fast ATA-2		$399.95
APS Q 1.08 Quantum Europa	1037MB 3800 rpm, Fast ATA-2		474.95

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APS TECHNOLOGIES

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Call us 24 hours a day, 7 days a week

APS HyperDAT®

- ✔ Up to 8GB of storage on one 120m DAT tape with hardware compression
- ✔ High transfer rates of up to 28MB per minute with hardware compression
- ✔ Compatible with all DDS-1 and DDS-2 media
- ✔ Includes the latest Retrospect 3.0 backup software – Free

Delivering backup speeds as high as 28MB per minute, this DDS-2 backup system can pack up to an incredible 8GB on a single 120m DAT tape!* The APS HyperDAT is compatible with other DDS-1 DC and DDS-2 DC drives. Perfect for office and network backup and archiving! **Assumes 2:1 compression ratio*

JUST $899.95 *External configuration*

MORE MEGS THAN EZ, ZIPPIER THAN ZIP!

APS SQ 3270 – 255MB REMOVABLE

- ✔ 2-year warranty
- ✔ 1.7MB/sec. transfer rates
- ✔ Packs up to 255MB on each 3.5" cartridge
- ✔ Best performing removable cartridge drive

WHILE SUPPLIES LAST! $299.95* *External configuration*

*Only with the purchase of one SQ 270 cartridge

MacUser ZD LABS ★★★★

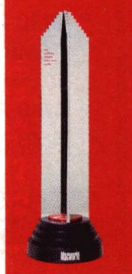
	Capacity	Access	Seek	Read Trans.	Write Trans.	Warranty	Price per MB
APS SQ 3270	255MB	27ms	13ms	1.8m/sec.	1.6m/sec.	2-year	$1.17
Zip	96MB	45ms	33ms	1.0m/sec.	1.0m/sec.	1-year	$2.07
EZ135	128MB	27ms	13ms	1.1m/sec.	0.8m/sec.	1-year	$1.80

BACK BY POPULAR DEMAND!

THE APS DAT $699.95 *External configuration*

- ✔ 2GB native capacity per 90m tape
- ✔ Twice the speed of old model – up to 19MB per min.
- ✔ Excellent for server and workstation backups
- ✔ Includes the latest Retrospect 3.0 backup software – Free

Back again by popular demand, the APS DAT packs up to 2GB of uncompressed data on a 90m DAT tape at a remarkable 19MB per minute, nearly twice as fast as a standard DAT drive! To backup a workstation or a small network, the APS DAT delivers both entry level price and professional performance.



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APS SYQUEST DRIVES

Model	Capacity/Feature	Awards	Internal	SR2000
APS SQ 3270	**255MB** Our best performing removable cartridge drive	MacUser ZD LABS ★★★★½	N/A	$299.95*
APS SQ 5200	**194MB** Ultimate storage flexibility	MacUser ZD LABS ★★★★½ NEW LOW PRICE	N/A	389.95

**While supplies last! CALL NOW!* *SQ 270 Cartridge $59.95*

APS CD-ROM DRIVES

Model	Features	Awards	Internal	SR2000
APS T 3701	**6.7X-SPEED** Sustained data transfer rates up to 1000KB per second!		$299.95	$329.95
APS PD4	**CD-ROM/Removable Optical** 600MB optical storage with 4X CD-ROM in one device		N/A	499.95*
APS CD-R	**Recordable CD-ROM** FREE TOAST CD-ROM Pro CD recording software ($500 value)		N/A	999.95*
APS CD-R Mastering System 4.0	4X read/4X write recording engine and a 4GB AV scratch disk		N/A	2999.95†

**While supplies last! CALL NOW!* *†Also available with a 2GB hard disk*

APS MO DRIVES

Model	Capacity/Features	Awards	SR2000
APS 230MB MO Olympus mechanism	4500 rpm drive	MacUser ZD LABS ★★★★	$449.95
APS 1.3GB MO Sony SMO F-531 mechanism	4MB cache		1699.95
OPTICAL JUKEBOX, SINGLE DRIVE Sony mechanism	Up to 26GB of ultra-reliable MO storage/includes software		5999.95

APS QIC & DAT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Internal	SR2000
APS HyperQIC™ QIC 3080 Mechanism	**2GB**	MacWEEK ★★★★ MacUser ZD LABS ★★★½	N/A	$499.95
APS DAT DDS-1 Non-Compression Mech.	**2GB** Back Again by popular demand!		$649.95	699.95
APS HyperDAT® DDS-2 Compression Mechanism	**8GB**		849.95	899.95
APS HyperDAT Pro DDS-2 High-Speed Mechanism	**8GB**	Power Macintosh Test Power Pc	1049.95	1099.95
APS DATLoader600 Ideal for large unattended network backups	**48GB**		N/A	2699.95

APS MEDIA SALE

SONY	SALE PRICE	SyQuest®	SALE PRICE
SONY 60M DAT TAPE	$6.95	SQ-400 (44MB)	$39.95
SONY 90M DAT TAPE	7.95	SQ-800 (88MB)	49.95
3080 XLF 3-PACK	89.95	SQ-2000 (200MB)	79.95
128MB MO CARTRIDGE	22.95	SQ-310 (105MB)	54.95
230MB MO CARTRIDGE	32.95	SQ-327 (270MB)	59.95
1.3GB MO CARTRIDGE	82.95		

- 30-day money-back guarantee on all APS brand products. Your risk is the cost of shipping.
- Drive-for-Drive Repair or Replacement Warranty. APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- Refused orders subject to 20% restocking fee.
- Listed capacities are formatted
- Internal hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. External SCSI-2 drives come with a premium SCSI cable, power cord and user guide.
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- All hard drives from APS Technologies come preformatted with Apple's System 7.0.1 software, and APS Technologies' APS PowerTools SCSI formatter/hard disk partitioner. You may need to install system software appropriate to your machine before use.
- Prices and specifications are subject to change without notice. Not responsible for typographical errors.
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APS DLT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	SR2000
APS DLT30 Digital Linear Tape Mechanism	**30GB**	Power Macintosh Test Power Pc	$3999.95
APS DLT40 Digital Linear Tape Mechanism	**40GB**	Power Macintosh Test Power Pc MACUSER EDITORS' CHOICE AWARD 1995 FINALIST	5499.95
APS DLT4500 Loader Digital Linear Tape Mechanism	**200GB**		9999.95
APS DLT4700 Loader Digital Linear Tape Mechanism	**280GB**		11499.95

All APS tape drives include Retrospect® by Dantz®

APS DLT30 & DLT40

IN STOCK!

- ✔ Dual-linear recording for maximum throughput
- ✔ Stores very large graphic files or databases on a single tape

Ultra-fast server backup and restore, that's what these incredible tape backup systems are all about. With real-life backup speeds as high as 100MB per minute and hardware-compressed data capacities of up to 40GB per tape, the APS DLT series of drives is the ultimate solution for that shrinking server backup window. *See line listings above for prices.*

To receive an automated fax listing of all APS documents, call 800-374-5802 from any touch-tone telephone

Then call 816-920-4150 from a fax machine with a handset or fax modem and follow the instructions.

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Standard 30-pin SIMMs

1MB 100/80/70NS	$31/26/35
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4MB 80/70NS	88/90
8MB 70NS	270
16MB 70NS	455

30-pin, 36 bit PC SIMMS

1MB 70NS	$45
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32MB 60NS	559

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Standard 72-Pin Simms:
Quadra 605/630, 610, 650, 700, 800/840AV, LCIII, LC475, LC630, Performa 450-560, 575 and 6115CD, PowerMac 6100, 7100, 8100, WS 80, WS60, WS 95, WS 6150 and WS 8150, 9150.

168 Pin Dimms:
PowerMac 9500, 8500, 7500, 7200

PowerMac Memory Selection Guide

PowerMac 6100

(8MB) Standard 72-pin SIMMS

To upgrade your RAM to:	You need to order:
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72MB	(2) 32MB 60NS

PowerMac 7100, 8100

(8MB) Standard 72-pin SIMMS

To upgrade your RAM to:	You need to order:
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24MB	(2) 8MB 70/60NS
40MB	(2) 16MB 70/60NS
72MB	(2) 32MB 60NS
136MB	(4) 32MB 60NS
264MB *(7100 only)*	(8) 32MB 60NS

PowerMac 9500, 8500, 7500

(16MB) Standard 168-pin DIMMS

To upgrade your RAM to:	You need to order:
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PowerMac 7200

(8MB) Standard 168-pin DIMMS

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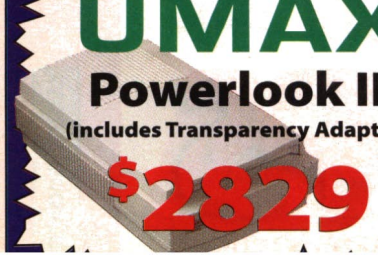

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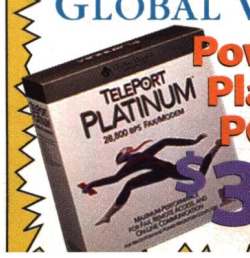

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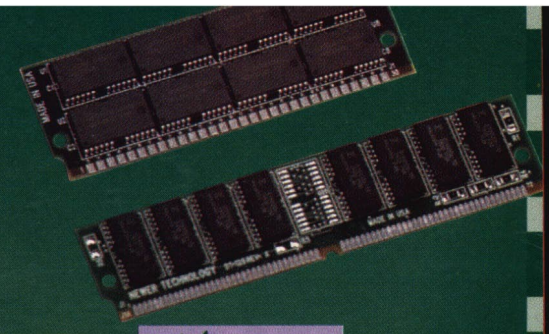

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Xceed Color 30hr	SE/30	256	256	256	256
Lapis Color 16	SE/30	Thousands	Thousands	256	256
Lapis Color 24	SE/30	Millions	Millions	256	256
Radius Direct Color/gx	IIsi	Millions	–	–	–
SuperMac Spectrum 8	IIsi	256	256	256	256
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Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
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SuperMac Superview	Mac SE	–	–	Mono	–
Radius TPD Interface	Mac SE	–	–	–	Mono
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SuperMac Spectrum 8	LC/PDS	256	256	256	256
Lapis Color 16 for LC	LC/PDS	Thousands	Thousands	256	256
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Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
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RasterOps 24L	Nubus	Millions	–	–	–
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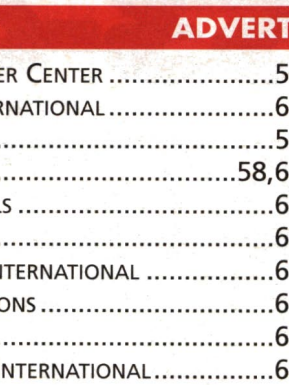

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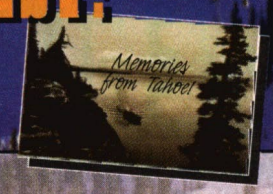

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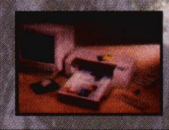

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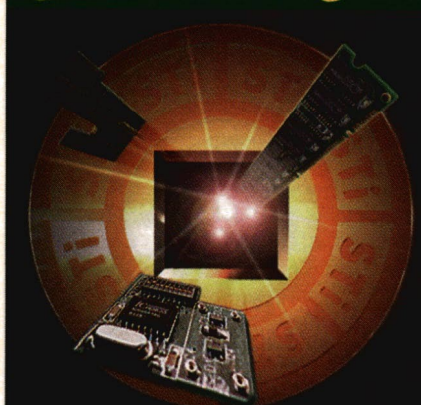

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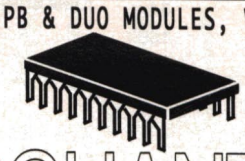

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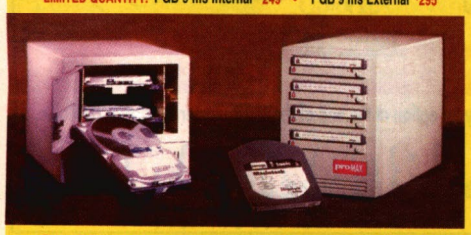

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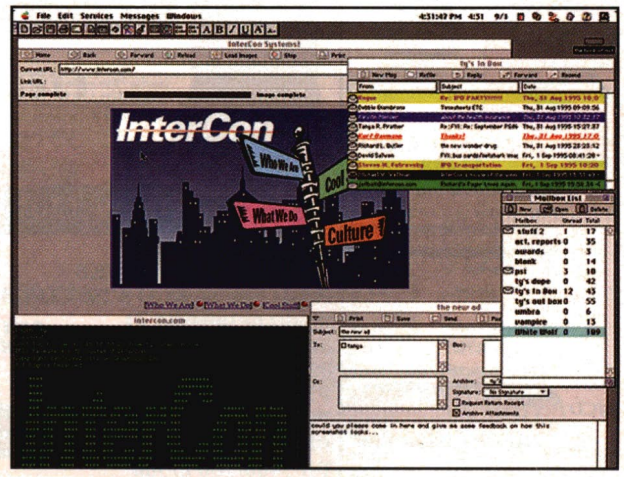

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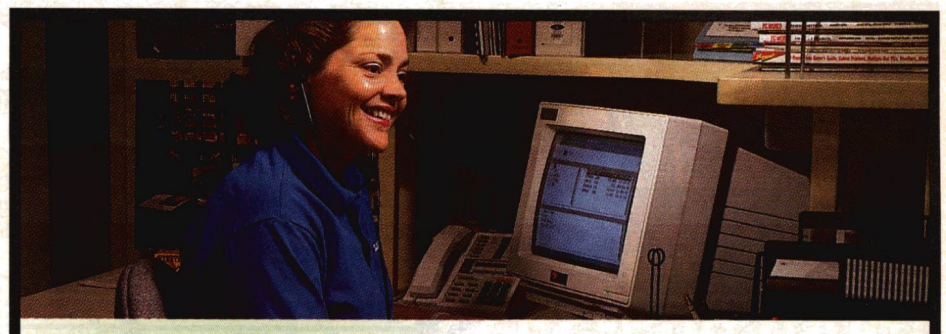

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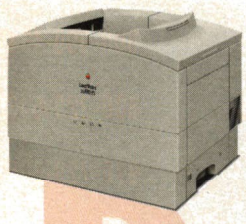

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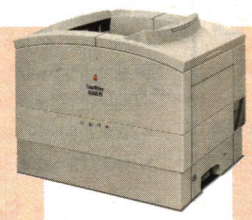

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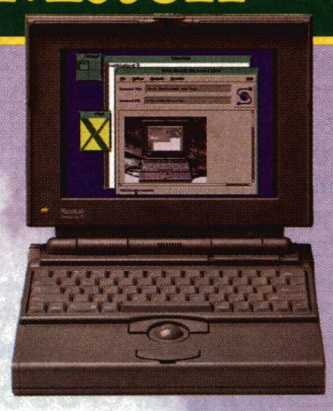

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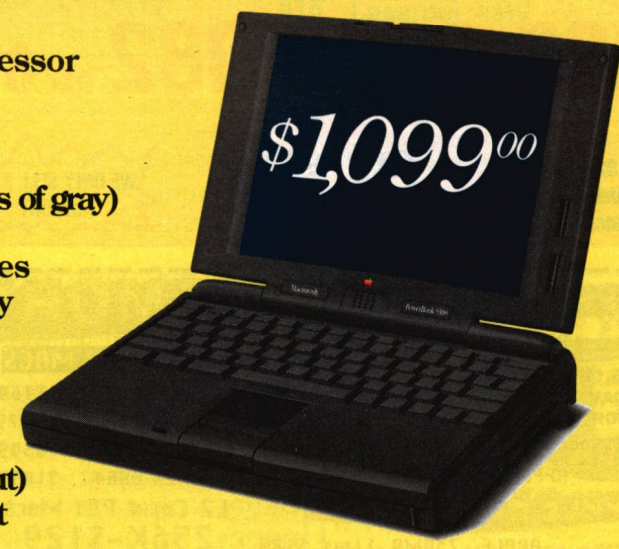

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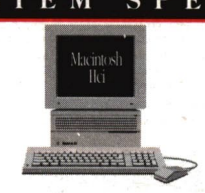

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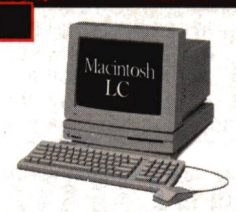

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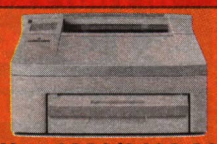

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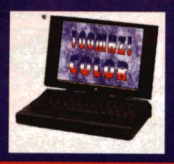

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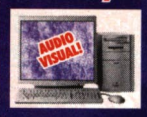

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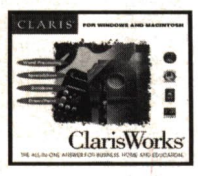

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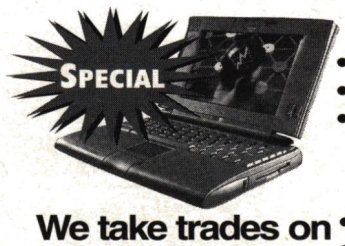

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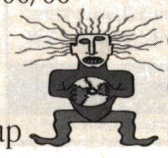

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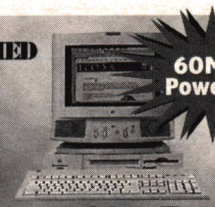

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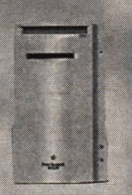

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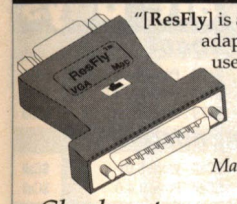

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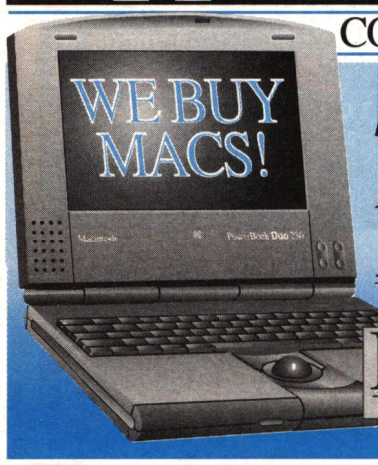

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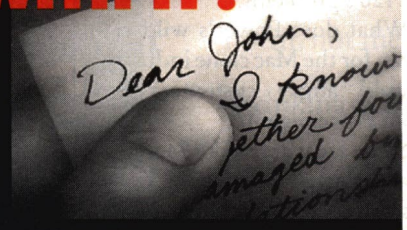

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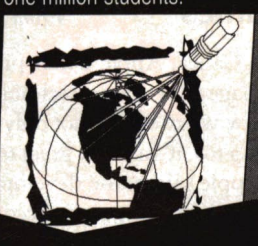

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Wrist Supports

Classified

Power

From Page 1

sor, but we had to track down why they were getting hot," said John Fitch, Power vice president of engineering, noting that Power looked at more than 50 systems before tracking down the problem. "We weren't stalling — it was just a problem of understanding what was happening and how to fix it."

In all, Power said it shipped about 10,000 Power 120 units, and by March 20, the company had repaired 298 units.

At the start of the new year, with the epoxy flaw still undiscovered, Power suddenly faced a nightmare scenario. The company was heavily dependent on Austin, Texas-based CompuAdd Computer Corp., an Intel-standard PC clone maker whose office space, manufacturing facilities, phones, order-entry system and equipment Power had subleased. On Thursday of Macworld Expo, Power was told that CompuAdd was closing its doors and that Power had to move immediately.

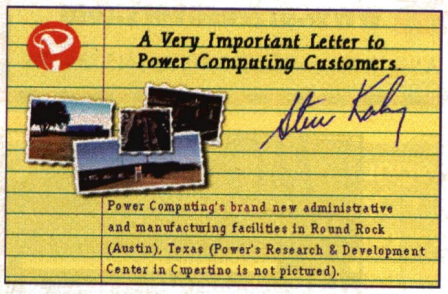
"We had days to build an infrastructure that should have taken months to assemble," Rosenfelt told MacWEEK.

The unexpected move to nearby Round Rock, Texas, wreaked havoc on Power's support systems. The transition led to problems with billing and filling orders, lost phone logs and long call wait times for users calling about their crashing 120s.

Larry Hootnick, Power senior vice president for finance and operations, said, "People would wait 35 minutes on hold and not get an answer." IS problems meant that "something that should take a few minutes could take as much as an hour," Hootnick said. "It was ugly."

"Everything that could go wrong did," Rosenfelt said. "It was an unconscionable situation." Now, the company said, it has hired more staff; installed a new phone system; and developed a streamlined support program for Power 120 users, which aims to repair affected systems within two days or less.

Last week, Kahng's letter to customers was posted on Power's Web site (http://www.powercc.com); it was the company's first public statement about its problems. In the letter, Kahng apologized for the company's customer service problems, explaining that "Things got out of control. ... While we know things aren't yet as good as we'd like them to be, they're definitely getting better."


A Very Important Letter to Power Computing Customers.
Power Computing's brand new administrative and manufacturing facilities in Round Rock (Austin), Texas (Power's Research & Development Center in Cupertino is not pictured).

CEO Stephen Kahng posted a letter on Power's Web page March 20, apologizing for service problems and promising better future service.

Power last week said it would post a separate letter on the company's Web site detailing the 120's problems.

What does Power's wild ride mean for the Mac clone industry? Would angry customers buy from Power again?

Some are wary. Mike Saunders, a sales manager at Boulder, Colo.-based NetStar Inc., bought a faulty Power 120 and was offered a PowerCurve as a replacement. But, Saunders said he will not buy from Power again "until they grow up."

"They only provided me with decent customer service after I seriously pressed the issue," said Steve Dortch, who works at a campus Christian organization in College Station, Texas. "Users who didn't pursue the issue as seriously as I did got screwed."

Other users said they feel Power has done right by them. Power 120 owner Shawn G. Henry, a photographer in Gloucester, Mass., said: "I wouldn't hesitate to buy another machine from them. I've been recommending them to anyone who'll listen."

Analysts were not concerned about Power's future. David Coursey, editor of San Mateo, Calif.-based PC Letter, said, "Very few clone manufacturers have been as carefully watched as Power Computing." Missteps were "very common in the early days," Coursey said, adding that PC clone vendors Zeos International Ltd. and Northgate Computer Systems Inc. nearly had meltdowns of their own. Of Power, he said, "[It seems] to be recovering well," and that its experience "can ultimately make the company a lot stronger." □

Games

From Page 1

Ben Calica, Apple senior product manager for game technologies. "Now we're saying not only is the Mac a toy, it's a really great toy."

Apple said game development is now a core strategy. According to Calica, the company's embracing of games is partially a reaction to similar moves by Microsoft Corp.

At last year's game developers conference, Microsoft unveiled its DirectX software development kit. Most of the DirectX APIs have been delivered to developers; the one exception is Direct3D, a hardware 3-D acceleration tool that is not expected to be final until the third quarter.

Game developers were positive about Apple's new direction. "Apple is clearly trying to keep the barriers low for DOS and PC game developers to come over to the Mac," said Jon Chait, CEO of Reality Bytes Inc. of Cambridge, Mass. "What I like most about the Game Sprockets is that Apple involved us in the creation process from the beginning."

Apple's software developers kit will feature six APIs, including the already-shipping QuickDraw 3D RAVE (Rendering Acceleration Virtual Engine) hardware 3-D acceleration API (see 03.04.96, Page 4). A preliminary version of the kit will be available this week from a new Web site at http://dev.info.apple.com/games. Calica said the final version will ship at the end of April.

The new Sprocket APIs aim to beef up support for network games and offer speedier graphics, improved sound, speech recognition and joystick independence, Apple said.

The NetSprocket API will provide Open Transport support and an easier interface for players to meet over a network.

"The network layer makes it extraordinarily easy to create networkable games," said Bill Dugan, Mac high priest at MacPlay of Irvine, Calif. "This SDK will really benefit smaller game developers and those new to the market," Dugan said.

More robust joystick interaction will be provided through the InputSprocket API; software developers can write to this layer instead of requiring separate code for each joystick. "[Currently] joystick support is a total nightmare for us," said Aaron Giles, senior programmer at Lucas Arts Entertainment Co. of San Rafael, Calif.

In addition, the SDK will feature a game implementation of PlainTalk, which will enable speech-driven commands.

The DrawSprocket API will implement multiple buffers that improve graphics, and another sprocket will provide surround-sound and spatial effects.

"Every piece [of the SDK] fills an important void," Giles said. □

Apple

From Page 1

tably in the Japanese market, where Fujitsu Ltd. of Tokyo has been staging an all-out price war.

Scott Miller, senior industry analyst at Dataquest, said a record 60 million PCs shipped in the United States last year, a 26 percent increase over 1994's total of 48 million units. Compaq of Houston and IBM of Armonk, N.Y., finished in the top two spots worldwide with 10 percent and 7.9 percent portions, respectively.

Research conducted by Computer Intelligence InfoCorp of La Jolla, Calif., concurred with Dataquest's findings.

Placing third in the U.S. market, Apple lost about half a percentage point from the previous year; it finished with an 11 percent share despite shipments of 2.5 million units, up from 2.16 million in 1994. Apple faced aggressive competition from first-place Compaq and second-place Packard Bell Electronics Inc. of Sacramento, Calif., which held 12.3 percent and 11.5 percent of the market, respectively.

Dataquest said the Mac's place in the laptop market was also challenged worldwide as Apple fell to the No. 5 position. NEC Corp. of Tokyo leapfrogged both Apple and IBM Corp.; NEC shipped 994,000 units in 1995 to capture 10 percent of the market.

Apple sold 661,000 notebooks, up from 644,000 in 1994, for a 6.7 percent share. Tokyo-based Toshiba International Corp. accounted for 15 percent of the notebook market. Compaq Computer Corp. and IBM finished second and fourth with 11 percent and 9.9 percent shares, respectively.

Apple's traditional weakness in the U.S. business market worsened in 1995. Corporate sales slipped 7 percent, while other vendors jumped 19.9 percent.

However, Apple's stronghold in the education market increased, Dataquest said, climbing by 50 percent and accounting for most of the overall segment's growth of 36 percent. Sales to home users were up 22 percent for the whole PC market; but Apple gained only 14 percent with these buyers.

Apple was also squeezed out of the government market, increasing its sales by only 2 percent while the segment as a whole improved by 17.9 percent.

Dataquest said most of the U.S. market growth occurred in the beginning of the year and then fell off dramatically in the spring. The slump is expected to continue through 1996. "The big challenge in 1996 will be to hold ground," Miller said.

The greatest growth in 1996 will be found in overseas markets, Dataquest said. Analysts said, however, that Apple's future share of the market could be buoyed by its recent moves to boost cloning in the Asian market (see 02.26.96, Page 1). Motorola Computer Group of Phoenix recently announced plans to license and sell Mac OS systems in China.

Dataquest said changes in the U.S. home market will boost Apple's Pippin platform. Bandai Digital Entertainment Inc. of La Mirada, Calif., this summer will market its Pippin AtWorld Player, a hybrid game machine and an Internet computer.

"People across all income segments who don't own PCs tell us the reason they haven't bought one is they don't need one," Miller said. He said this presents a huge barrier to future PC sales in the United States. "We think there is an opportunity in this market, but not with today's PC." □

Compaq just says 'No'

By PC Week staff

Hanover, Germany — Compaq Computer Corp. has denied reports swirling around the CeBIT '96 trade show here that it is negotiating with several PowerPC-related companies to develop Compaq-branded Macintosh clones and enterprise servers built around the PowerPC architecture.

"The rumors of Compaq developing Power PC-based desktops and servers are not true," said John Sweney, spokesman for the Houston computer maker. "No such plans exist or are contemplated."

Compaq had initially declined to comment on the story.

The story first appeared March 19 in PC Week Online and MacWEEK Online. Sources had stated that the world's largest PC maker was in discussions with PowerPC proponents Motorola Inc. and Apple about licensing PowerPC designs. Compaq was said to be evaluating a line of PowerPC systems for the consumer market that would run the Mac OS and other PowerPC OSes. Sources also had claimed that Compaq was in talks with Motorola and The Bull Group Inc. for the use of forthcoming PowerPC 620 microprocessors in symmetrical multiprocessing enterprise servers. □

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"QuickMail ... is the best choice for Mac-centric LANs."

MacWEEK, Nov. 13, 1995

score card MacWEEK

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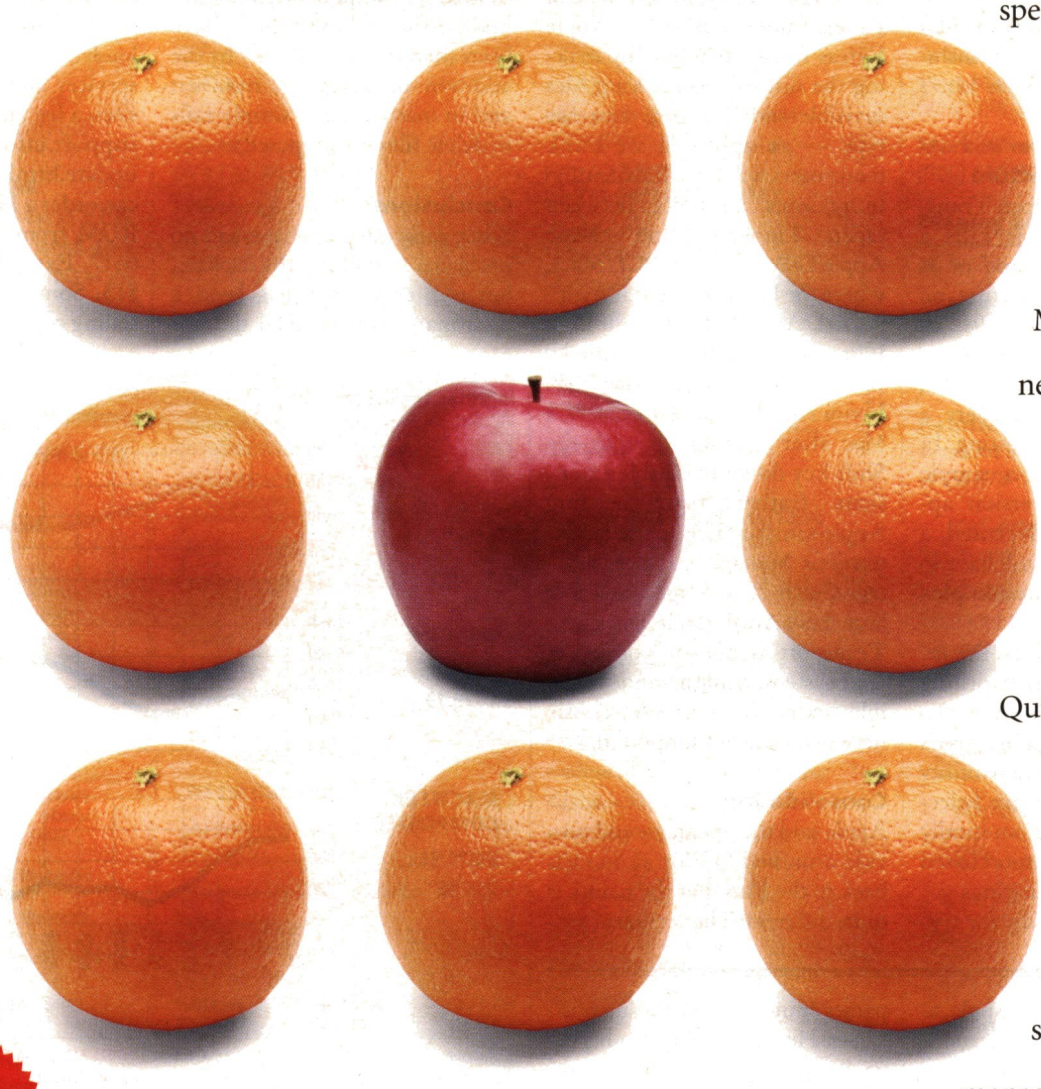

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OS update

From Page 1

Macs are more stable than ever, but we and some other early adopters have had the opposite experience.

One complicating factor: The fixes have apparently introduced new problems with some popular programs. For us, Netscape Navigator 2.0 crashed even more than previously, and other users have reported problems with Connectix Corp.'s RAM Doubler 1.6.1 and Adobe Photoshop 3.0.5, although we ran both of these programs successfully on updated systems.

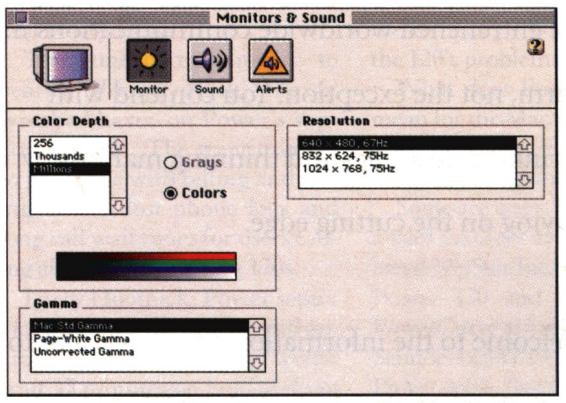
Performance improvements

New algorithms for managing CPU caches, larger default disk-cache settings (now 32 Kbytes per Mbyte of installed RAM), and improved Finder-copying routines bring a performance boost for all Macs. The biggest winners, though, are Power Mac users, particularly those with pre-PCI models: The update installs native PowerPC versions of two important system managers, the Resource Manager and the SCSI Manager, which were previously available only on PCI Macs.

Because these are such low-level changes and their effects depend on the applications and drivers involved, it's not easy to measure the real-life speedup. MacBench 3.0 reported improvements on the order of 3 percent to 10 percent in many individual tests. Subjectively, we thought we noticed some greater fluidity on the systems we tested, but the effect was not earthshaking.

Usability enhancements

In this area the update brings no radical changes but some welcome refinements: Get Info comments are now saved when the desktop is rebuilt (at the price of making this operation even slower than before). A new Monitors & Sound control panel is clear and attractive; unfortunately, it's installed only on PCI Macs. On Power Macs, "translucent dragging" shows an icon's name as it's moved.



On PCI-based Power Macs, System 7.5 Update 2.0 installs Monitors & Sound, which replaces the problematic Sound & Displays panel introduced last year.

Networking architecture

The update installs Open Transport 1.1, which Apple calls a "major reimplementation" of its new networking architecture, on most Macs with 68030, 68040 or PowerPC processors; the exceptions are the desktop 5200, 5300, 6200 and 6300 series, where a bug was found in late testing. In preliminary tests on a simple network, the new version appeared to work as advertised; a definitive assessment will have to await more testing in complex environments.

On pre-PCI machines, the installer leaves older networking software in place and active. To turn on Open Transport, users must choose it from a new utility called Network Software Selector; the software automatically configures Open Transport based on the user's previous settings.

Apple deserves credit for trying to make the migration to Open Transport painless, but the Network Software Selector is a strange beast apparently developed in haste. It's placed not, as one might expect, in the Control Panels folder, but in the Apple Extras folder. It works by making the unused networking files invisible and changing their file type — an approach we think many users will find disorienting. It presents a choice between Open Transport and classic AppleTalk even on PCI Macs, where the latter option is not supported. And it's easily confused. It breaks down if you've added a version number, say, to MacTCP. If you run the updater on a PCI Mac after starting up with the Shift key down to disable extensions (rather than heeding Apple's instructions to use its Extensions Manager), it delivers a true Catch-22 message when first launched: An alert tells you Open Transport is not supported on your system, while a window visible under the alert says classic networking is not supported.

Consolidation

Apple said the update would provide a unified OS for all models back to the Plus, but the reality is quite different: The version of System 7.5.3 that the update creates reportedly differs, at least technically, from the similarly numbered version set to ship on new Macs later this spring. Creating a universal system is difficult — you need to start from the original System 7.5, which won't normally install on most recent Macs. And two major pieces of the update — Open Transport and the native SCSI Manager — don't work on 603-based desktop models.

The update installer is designed to reduce System folder chaos by updating or deleting outdated components, whether active or not. But its performance is erratic: It ignores many pre-System 7.5 components; it doesn't update files whose names have been changed, even if only by the addition of a version number; and in many cases it simply fails to delete files it's supposed to.

Conclusions

Some early adopters have had no problems installing the update, but our experience has been a nightmare: We installed the update on five previously stable systems — a Power Mac 9500, a PowerCurve from Power Computing Corp., a Performa 5215CD, a Quadra 605 and a Duo 250 — and not a single installation occurred without significant problems, even though we followed recommended procedures in all but one case. (For details, see the MacWEEK Web site at http://www.zdnet.com/macweek/mw_1012/install.html.) We have little doubt that System 7.5 Update 2.0 will eventually improve the Mac experience for most users; for many it has already done so. But based on our personal experience, we can only advise proceeding with extreme caution.

The update can be downloaded from commercial on-line services and numerous Internet sites; a list and links are at http://support.info.apple.com/update/update.html. Alternatively, you can order a 14-floppy set or a CD-ROM from Apple at (800) 293-6617, Ext. 984; either version is $13. Some user groups are also selling copies. □

Marketing

From Page 1

which launched The Corporate Mac. "They talked about co-hosting a luncheon, having a [nondisclosure] room for corporate buyers and other things. Then no one returned our calls — ever."

While Apple Americas President Jim Buckley denied any inattention to corporate sites, he did agree that the successes of small-business programs have been much more visible.

"To say that we're backing away from large businesses is a misstatement," Buckley said. He pointed to the new Apple position of vice president of enterprise markets, held by Steve Angelo, though he admitted that Angelo "is just getting his feet wet in the position." He also cited Powersoft Corp.'s effort, funded by Apple, to port its PowerBuilder application-development software to the Mac.

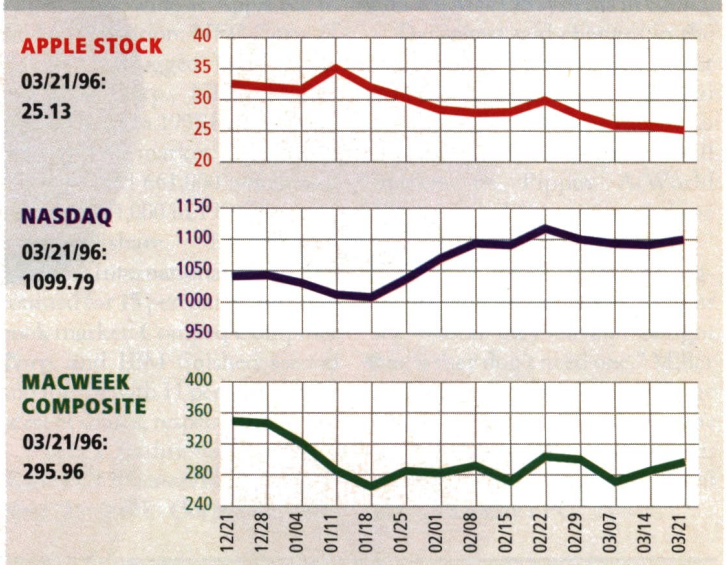
But there is more evidence that Apple has a focused strategy to win over the faster-growing small-business market. Buckley recently named Gary Little vice president of general business markets. Earlier this month, Apple began bundling BestWare Inc.'s MYOB Accounting software for small business in Canada; Buckley hinted that a similar bundle would be unveiled for the United States next month.

Small business is expected to grow by more than 50 percent in 1996 over last year, compared with 6 percent for Fortune 1000 companies, according to Giga Information Group of Cambridge, Mass. Buckley said part of that growth will result from layoffs at big companies as individuals start up businesses. He also noted that as big organizations downsize, they're unlikely to buy new computers.

One third-party vendor that has benefited from Apple's focus on small business is Big Software Inc. of Los Altos, Calif. According to Eric Herzog, vice president of marketing, "It's refreshing to see Apple working with the developers in this area." He cited Apple's numerous recent co-marketing efforts with his company at trade shows.

Nancy Neipp, director of the Apple Business Consortium, a Campbell, Calif.-based nonprofit group that represents value-added resellers and consultants who serve small business, said, "It's never been better than it is right now as far as our visibility inside Apple." □

StockWatch



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Caere	8.63	0.88
CE Software	2.75	-0.06
Fractal	13.25	0.00
Graphsoft	6.88	0.25
Insignia	6.94	-0.25
Intuit	47.00	-4.25
Macromedia	43.88	3.13
Microsoft	100.75	1.13
Novell	13.00	1.00
Oracle	48.63	0.50
Symantec	13.13	0.75
STORAGE		
Conner	25.75	0.00
Iomega	24.00	5.13
Pinnacle	7.88	-0.25
Quantum	19.25	0.25
Seagate	54.00	-3.00
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Focus	3.38	-0.06
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Intel	55.88	-0.25
Motorola	54.38	0.50
SGI	25.00	-0.13
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On-line this week

ZDNet System Update 2.0 install woes

If you haven't already installed Apple's System 7.5 Update 2.0, then take a look at MacWEEK Online and find out what Henry Norr has to say about it.

Complementing this week's review of the update, Norr discusses the nightmare of installing the update on various machines (http://www.zdnet.com/macweek/mw_1012/install.html).

Other Online exclusives

In this week's "Off the Record," Mark Hall proposes a plan for Netscape that may give Microsoft something to worry about. According to Hall, by making Navigator an OpenDoc container Netscape could gain new artillery in the battle over the "Intranet."

Where to find us on-line

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Looking ahead

NEXT WEEK

MacWEEK Guide to the Internet: In our last Internet guide we discussed setting up a Web site. In this guide, we look at managing a Web presence and how to keep readers coming back.

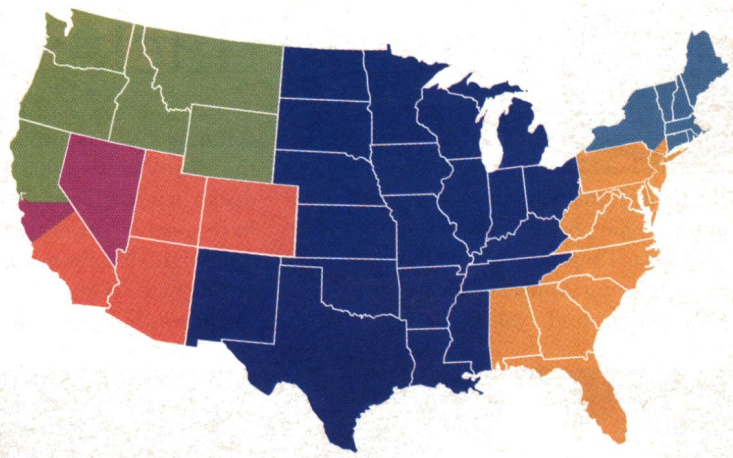
SOLUTIONS IN THE WORKS

We want to know the difficulties, successes and failures you've experienced in the areas defined below. Send your comments to solutions@macweek.com. Please include information on how to contact you.

- If you've had to link your Mac networks to mainframes in the past two years, we'd like to hear about your experiences, positive and negative. What were the best solutions? What didn't work at all? And, how did your users react?

REVIEWS IN THE WORKS

- PCI graphics cards: Number Nine Imagine128 and Matrox MGA Millenium
- Epson Stylus Pro XL
- Macromedia SoundEdit 16 Version 2.0



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Pressed duck à l'Apple

Always a firm proponent of spring cleaning, the Knife is marking the vernal equinox by applying the proverbial blowtorch to stacks of old MacTV prototypes, vintage white papers outlining Apple's plans for a modular CPU/juicer and yellowed MacWEEK columns by Jean-Louis Gassée. He hopes this effort will enable him to get all his ducks in a row, even if an unfortunate few have already suffocated under the dusty mounds of detritus heaped atop his desk.

The Knife is not the only industry figure intent on lining up waterfowl, if reports from Apple's Department of Nomenclature are to be believed. The company's resident linguists are apparently back at their thesauri, busily coming up with a new set of matching labels for the company's consumer Macs.

According to the Knife's Freedom of Information Bureau, new Performas will carry monikers that reflect their target audience and supplant the obscure numerology that burdened earlier models. (Who can forget the Performa 6230, not to be confused with the 6290?)

First on deck for the new name game will be the Instatower models slated to ship this summer. Word is the lineup will include the Performa 8300/Business System and its flashier cousin, the Performa 8300/Multimedia System. While we're on the subject of achingly obvious marketing ploys, the Knife devoutly hopes that a Performa 8300/Internet System will join the roster.

And speaking of the Internet: Apple is reportedly polishing up a successor to its Pippin box for the end of '97. The architecture for the Pippin II has yet to be frozen, but the Knife's prognosticators report that Apple is looking to power the device with a 604e processor and hardware 3-D accelerator chips on the logic board; game developers are pushing for a minimum of 8 Mbytes of RAM out of the box. In other Pippin news, word is that Sony may very well be holding a license for the mini-Mac.

Cowabunga!

While Apple may still be dipping a tentative toe into the tides of cyberspace, Bill "Moon Doggy" Gates is preparing to hang 10 on the Net with a new add-on release for Windows 95 due to go beta this summer.

According to the Knife's double agents in Redmond, the new software is dubbed Windows 95 Nashville, to match the Memphis code-name for Windows 97. (When Microsoft code-names a release Graceland, we'll all know the King is alive and laboring mightily in the Pacific Northwest.) In a move to meet Web crawlers halfway, the add-on will transform the Windows GUI to resemble a big, fat browser. Nevertheless, the Knife is pleased to report that the platform will be just as functional and delightful as ever.

Dance this math around

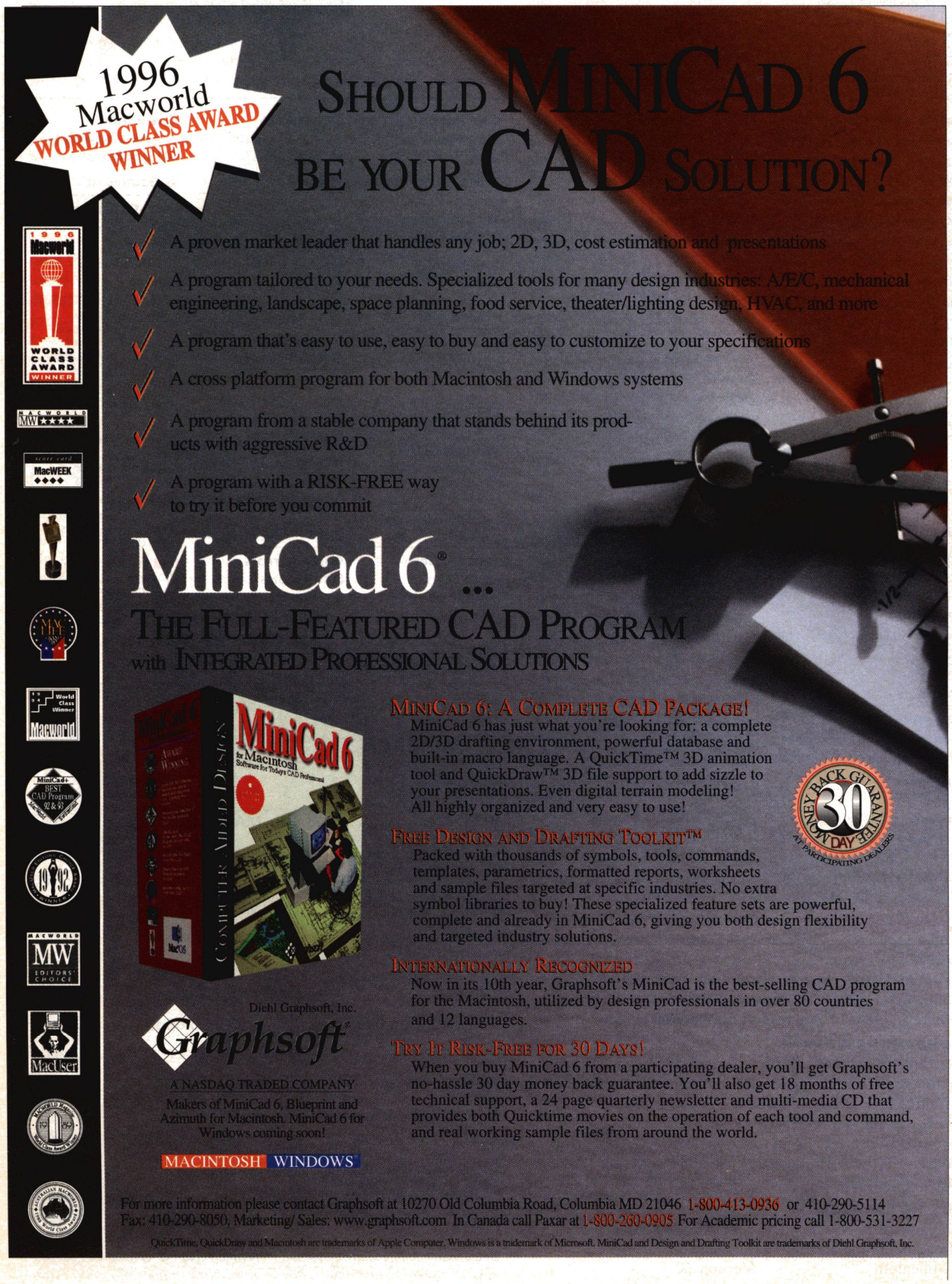
Meanwhile, cybergoobers are abuzz over a new shared math library floating around the Web, reportedly courtesy of some clever folks at Electric Image. According to the Knife's on-line nabobs, the Power Mac freeware mops the floor with its counterpart from Apple; just drop it into your System folder and — presto! — floating-point operations on 3-D run three to five times faster.

Last of its tribe

Like African-Americans for Buchanan, giant corporations that actually give the Mac the time of day seem to be a dwindling constituency in these troubled times. But fear not, Mac diehards: At least one Urconglomerate is still carrying a torch for the OS.

The Knife's contacts in the arms trade are pleased to report that aerospace titan Lockheed has poured $5 million into purchasing new Power Macs. As a matter of fact, this latest acquisition represents the company's biggest single Mac purchase ever. □

The Knife don't care too much for money; money can't buy you mugs. Leave a tip instead at (415) 243-3544; fax (415) 243-3651; mac_the_knife@macweek.com.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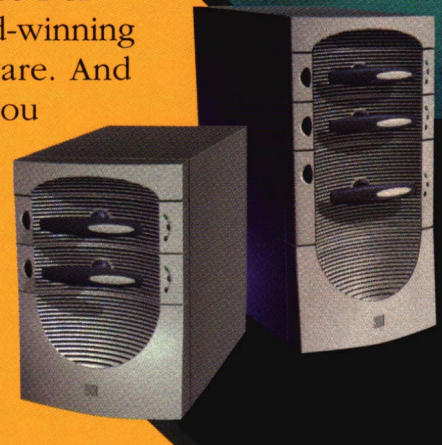

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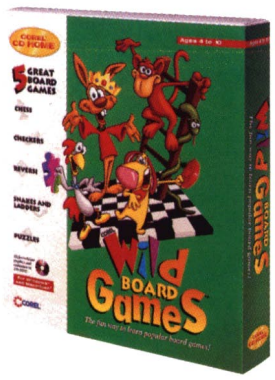

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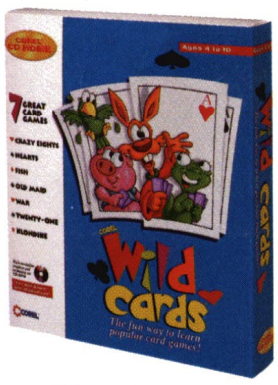

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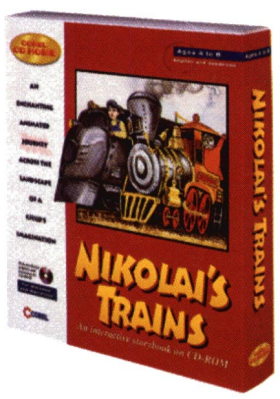

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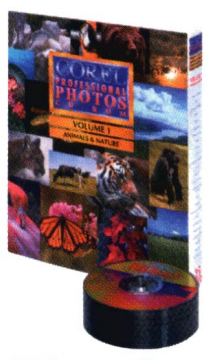

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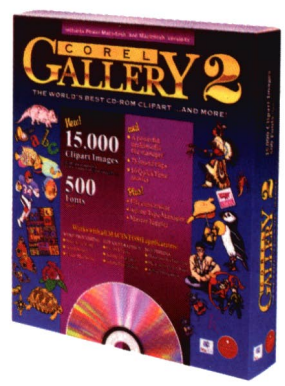

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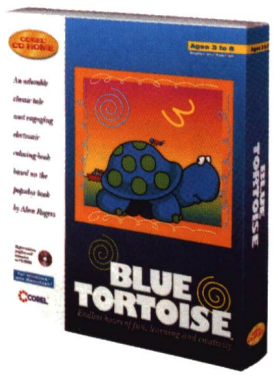

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